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A Lecture
ON
THE TREATMENT OF ACUTE APPENDICITIS: WHEN AND HOW TO OPERATE.

Delivered at the Medical Graduates' College and Polyclinic, Chenies-street, London, W.C.,

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PRELIMINARY OBSERVATIONS.

GENTLEMEN,—When I was honoured by the invitation to lecture to the Medical Graduates' College and Polyclinic I had some hesitation in acceding to the request, mainly because I felt the difficulty of choosing a subject that would justify my appearance before the College and would also be of such practical interest that it would repay my audience for coming to listen to me. As it is, I have selected a topic that has been frequently debated, and on which I know great diversity of opinion exists, but I feel that it is one that cannot be too often discussed, because appendicitis is a malady that comes to rich and poor alike, and there is no getting over the fact that the modern surgical treatment of *acute* appendicitis has not won the triumphs that it ought to have done to justify its interference in the acute stage of every case of that ailment. This I hold to be due to the application of surgical measures *at the wrong time* to a large number of cases marked by a severe type of the disease, whereas if operative measures were delayed until the local inflammatory conditions had been subdued and the tissues rendered more favourable for surgical intervention, these cases would be all successfully treated by operation. In short, I hold that with only a few well-defined exceptions which demand immediate operation, it is the better course not to interfere surgically in these acute cases of appendicitis until by medicinal and other measures they have been reduced to the quiescent state of matters that exists in what is known as the "interval operation," when, as everyone admits, operative measures are practically safe, and where surgery has won a brilliant triumph and has brought to many an improved health and strength that could never have been obtained by the aid of medicine alone.

I know how difficult it is to persuade surgeons that this is possible and that such a line of treatment is not fraught with unjustifiable risks, but I am satisfied that it is possible if we recognise and carry out certain principles that have not at present the general recognition and acceptance which they ought to have, and that it is both a safe and the proper line of procedure to follow in nearly all cases of acute appendicitis my 14 years' experience as hospital surgeon fully supports. I could also give the results of my private work in confirmation of it, but I think it better only to quote my hospital figures, because hospital work admittedly brings the worst class of cases, while it allows of a comparison of one's own statistics with those of colleagues who are not of the same way of thinking, and whose procedure in acute cases consequently differs from one's own.

PRIMARY CAUSES OF INFLAMMATION OF THE APPENDIX.

In dealing with the subject of acute appendicitis brief reference must be made to the primary causes which set up in the appendix that sudden disturbance of its nutrition which we call inflammation, and which may range from mere vascular changes to ulceration or even gangrene. Leaving out the many undoubted predisposing factors that may exist, I would say that of the exciting causes the one which holds the foremost place is *bacterial infection*, the chief offending micro-organisms being the pus cocci and the bacillus coli. Seeing that they are ordinary denizens of the appendix, there must be some additional element that favours their activity, and this is found in the advent of pressure or increased tension, undoubtedly supplied by the following conditions, which must consequently be also regarded as exciting causes: (1) internal strictures of the lumen; (2) twists and bends, as from a short mesentery; (3) adhesions; and (4) foreign bodies, including concretions. Without going into details, it may be said generally that these internal strictures, bends, and adhesions become active excitants of disease in the appendix by occasionally interfering with the vascular supply, but more commonly with the normal drainage of the organ, so that its secretions are retained and develop tension with all its after-effects. As it has been tersely put (Campbell), the etiological factors in acute appendicitis are: (1) defective drainage; (2) defective structure; and (3) defective blood-supply.

PATHOLOGICAL CHANGES.

As regards the pathological changes in the appendix in acute appendicitis, the weight of evidence seems in favour of the initial cause being a local lesion in the mucosa by which organisms gain entrance and set up inflammation and suppuration, with possible perforation of the organ. Confirmation of this is furnished by the results of Professor Robert Muir's examination of 50 appendices removed by me at the Glasgow Western Infirmary. About them Professor Muir writes to me as follows: "The lesions present in the series of 50 appendices which I have examined are naturally of very various kinds, and it is difficult to give a concise summary of them. I may, however, say that the lesion in the mucosa is in the first place of a local character; that by it the organisms gain entrance to the tissues, there producing inflammation and suppuration which may lead to perforation; at the same time there is an absorption of toxins which results in an acute inflammatory swelling of *all* the coats of the appendix, these being overrun by leucocytes—in other words, an acute interstitial inflammation. In this matter I agree with Aschoff, who in his monograph maintains that the essence of an acute appendicitis is not a general catarrh, but some local lesion which forms the site of infection." He further adds: "I have been much struck in my examination of these appendices by the extent to which the evidence of acute inflammation has disappeared in the interval between the acute onset and the time of operation, most of the changes being of a subacute or proliferative nature. This is the case even where perforation and suppuration have been present, and there are some cases in which there is much overgrowth of granulation tissue outside the appendix and evidences of absorption of purulent material." As nearly all of these appendices were removed from 14 to 21 days after the onset of the acute attack, this observation of Professor Muir is of considerable interest and value.

MORBID CONDITIONS IN THE STRUCTURES AROUND AN INFLAMED APPENDIX.

This leads to a consideration of the different morbid conditions that may arise in the structures around an inflamed appendix. It is now well established that all degrees of inflammation may be met with, and that, as a general rule, cases of appendicitis vary in the amount of intra-abdominal mischief present, so that we have clinical varieties of the disease, some cases being (1) mild, others (2) severe, and a certain number (3) rapidly fatal. Whatever be the degree of inflammation met with, it is important to remember that it represents a varying amount of peritonitis, and that this is the common bond between all cases of appendicitis, it being on the peritoneum that the whole brunt of the attack falls. Thus we find that sometimes the peritonitis may consist of a mere injection of the smooth peritoneal surface of the appendix which will still lie free in the peritoneal cavity. In other cases there may be present signs of intense peritoneal inflammation in the cæcal region, the appendix being red, swollen, and covered with a creamy deposit of lymph, but not necessarily bound down by any adhesions. In either of these groups of cases the inflammation may go a stage further, when there comes into play the power possessed by the peritoneum of localising the inflammatory attack of any of the abdominal viscera by means of the effusion of plastic lymph. As a result of this the coils of intestine in the vicinity of the inflamed appendix are matted together along with omentum and cæcum, so that the damaged organ, possibly perforated in places and even sloughy-looking, becomes completely surrounded and shut off from the general peritoneal cavity. This is the state of matters present in a considerable number of cases, and beyond these limits the inflammation may not pass. In a certain number, however, it does, and within the matted coils of intestine there forms a collection of purulent

fluid, containing, it may be, one or more concretions, and possibly the sloughed-off appendix. In short, there is formed a limited and circumscribed abscess. It is these two groups of cases—namely, those with a localised effusion of lymph and those with, in addition, a circumscribed abscess, that specially merit attention, because I regard them as the ones responsible for the high death-rate that still exists in the surgical treatment of appendicitis in its acute form. It is with them that too early operative interference is unwise and harmful, and that delay should be exercised in operating on them, for reasons which will be given later on. Distinct from this group marked by intraperitoneal abscess are those other cases where inflammation of the appendix sets up suppuration in the retroperitoneal connective tissue. Especially is this likely to happen when the appendix is retro-cæcal and devoid of peritoneum. Such collections of matter are often of considerable size, and are, of course, extraperitoneal. They are the perityphilitic abscesses of the older pathology. They are not serious in the same way as intraperitoneal ones are, but they come under the same restrictions as to early surgical interference. Hasty operation upon them is to be deprecated, and when undertaken should be upon special lines. Lastly, we have a number of cases of inflammation of the appendix that are not characterised by the circumscribed and less formidable variety of adhesive peritonitis. In them there has been no limitation of the inflammation, and the whole peritoneal cavity is the seat of an acute infective and suppurative process. Sometimes this shows itself in the form of effused masses of coagulating lymph which coat the whole serous surface of the intestines, or there may be present a limited quantity of turbid purulent fluid with no adhesive or organising tendencies.

Such, in brief, are the morbid conditions which may be met with, and from what has been said it is, I think, clear that in cases of acute inflammation of the appendix we have a variety of local conditions to deal with: either a very moderate and limited disturbance, or a severe yet circumscribed one, with, in a certain proportion of cases—not a large one—a diffuse and general peritonitis. It is the extent to which the peritoneum is involved that is the element of danger in cases of acute appendicitis and gives to them their gravity and seriousness, while the prognosis depends on whether or not there is present a localising and circumscribing peritonitis, or a diffuse and general one, this latter being the most unpromising condition to deal with.

SYMPTOMS.

As regards the symptoms of an acute attack of appendicitis, it is not necessary to dwell on them. These are as follows: (1) pain in the abdomen, very often of sudden onset, and referred at first to the epigastrium, but eventually to the right iliac fossa; (2) constitutional disturbance, as shown by quick pulse and fever of varying degree, and occasionally a rigor; (3) gastro-intestinal disturbance, manifesting itself by nausea, vomiting, and usually constipation; and (4) localised symptoms in the right iliac region, tenderness over the root of the appendix (McBurney's point), muscular rigidity, and from time to time dulness. In addition, the posture of the patient is often very characteristic, the dorsal position being assumed, with the legs flexed on the abdomen. With such a group of symptoms present in a young person the diagnosis would be peritonitis arising from acute inflammation of the appendix. I will not go into the question of the other conditions, such as biliary and renal colic, gastric ulcer, tubal and ovarian disease in women, with which appendicitis is apt to be confounded, but will assume that a diagnosis of appendicitis is the correct one, and that the question to be considered is the treatment of the case.

TREATMENT.

In the matter of treatment the first point to insist upon is that in the management of every case of acute appendicitis there is one point, and one point only, that should be kept in view, and that is the *safe conduct of the patient through the existing attack*. No other considerations should come into the case at this stage, and no special line of treatment should for a moment be entertained on the ground that it may bring ulterior advantages. To advocate removal of the appendix when acutely inflamed because it will insure immunity from future attacks is wrong in principle and improper, because the prevention of subsequent attacks is not the matter in hand. What is aimed at is the recovery of the patient from his present attack of peritonitis. To limit and circumscribe this peritonitis and to forestall the dangers that might ensue from its extension is the object to be kept in view in all measures adopted. To allow of the treatment being put upon a satisfactory basis, the first thing to be aimed at is to decide *what kind of case it is that has to be dealt with*. Do the symptoms point to a localised peritonitis, or is it a diffuse general suppurative peritonitis from a burst appendix of the same type as follows a ruptured gastric ulcer? It is of the highest importance to have this point settled at once, if possible, and it should not be a matter of very great difficulty if the history of the attack and the local conditions are fully weighed and balanced. It is in connexion with a point such as this that clinical experience is of so much value, and is able to put a correct interpretation on the different symptoms that present themselves. One thing I am certain of, and that is that mere intensity of constitutional disturbance is not a safe guide to follow, and that reliance must rather be placed on the presence or absence of general rigidity with hyperæsthesia of the abdomen, on the rapid pulse and moderate temperature, and on that characteristic facial expression that are so indicative of general suppurative peritonitis.

Cases with Localised Peritonitis.

Having satisfied myself that the case is one of a localised peritonitis limited to the cæcal region my practice is not to operate at once, but to aim at preventing the further spread of any bacterial inflammation that is present, and I know that I shall materially assist in the attainment of this object by arresting the peristaltic movement of the intestines which is the main factor in disseminating through the peritoneal cavity those deleterious products which may be present as the results of the acute attack. With this object in view I at once resort to opium, in the form of Dover's powder, which is given in proportions suited to the age of the patient, adults having 5 grains or 2½ grains according to the amount of pain. It is combined with the subnitrate of bismuth in 5-grain doses, and it is repeated every two, three, or four hours according to circumstances. I know the prejudice that exists against the use of opium in these cases and the cry that it "masks symptoms," but these are theoretical objections, and do not hold good when it is judiciously employed. One only has to see its beneficial effects clinically to be satisfied with its usefulness. Even if it has some drawbacks these are neutralised by its power of arresting those peristaltic contractions of the intestines which tear away adhesions and further the extension of inflammatory products. Undoubtedly by its use we assist the limitation or encapsulation of the inflammatory process. As I have already said more than once, it is on the same grounds that saline purges have no place in the treatment of these cases of acute appendicitis. Introduced by Lawson Tait to meet the general suppurative peritonitis following a septic operation, they are not logically applicable to a local peritonitis which one is striving to prevent becoming general. In my opinion it is the neglect of opium and the use of saline purges that are responsible for the unsatisfactory progress of many cases that would otherwise have shown a different clinical history.

Should the case show much gastro-intestinal disturbance, as indicated by sickness or flatulence, I combine with the bismuth and Dover's powder a quarter of a grain of grey powder. I prefer it to calomel as a gastric sedative, and I look on it as a most useful intestinal antiseptic, preventing decomposition and the formation of gaseous products. The grey powder is not given for any laxative effects, as that would be contrary to the principles of intestinal rest that is the basis of this treatment. To empty the large intestine of its contents I employ soap-and-water enemata of moderate size, but there is no aim at general lavage of the colon. To assist in the relief of pain and to increase the vascularity of the iliac region on the basis of Bier's treatment, resort is had to local warmth in the shape of hot and light poultices. I reduce the food administered by the mouth to the smallest quantity. It is restricted to albumin water, which is very nourishing, is easily absorbed by the stomach, and sets up no intestinal peristalsis if given in very small quantities; while thirst is allayed by washing out the mouth with warm water. The patient is placed in the position of the greatest comfort, but preferably the Fowler one, if there is much flatulence or biccough.

On these same lines I continue treatment, modifying

details as the case improves until the attack is over, and I only adopt surgical interference for the removal of the appendix *when I find pulse, temperature, and blood count normal.* I attach special importance to the latter condition, for the continuance of a high blood count when pulse and temperature are normal is a sure indication of the existence of pus, and a distinct warning against operative measures, until a certain time has elapsed. From what has been said, such a collection of pus may be intraperitoneal, or extra-peritoneal and retrocæcal. With the continuance of a high blood count the case is still carefully watched, the diet restricted, no laxatives are given, their place being taken by enemata, and rest in bed is enjoined. Should there be no signs of pus coming forward I do not wait indefinitely, but at the end of three weeks or four—a period that my clinical experience has taught me is sufficient to render the pus more or less sterile—I operate upon the case and deal with it according to circumstances. Should the abscess cavity be large and the abscess wall adherent to the parietal peritoneum I content myself with introducing a drainage-tube and allow the abscess cavity to close. Some days subsequently I remove the appendix or what is left of it. In other cases where there are one or more small intraperitoneal purulent collections I wipe out all the pus, having carefully shut off with packing the peritoneal cavity, and proceed to the removal of the appendix, being careful to drain and pack with gauze the parts connected with and around the abscess as part of the after-treatment. Sometimes in the course of an acute attack of appendicitis while the above medicinal measures are being carried out a firm mass may be felt in the right iliac region. This is a collection of inflammatory lymph that may eventually be absorbed or, breaking down, form an abscess which will require evacuation. Such a collection of matter is usually extraperitoneal, and it is best opened by an incision placed well behind so as to avoid the peritoneum and facilitate drainage. No attempt should be made to define and take away the appendix in these cases, as sometimes it has ulcerated away and is not recognisable. Very often, even when left entire, it gives no further trouble, and should only be interfered with if signs of irritation subsequently manifest themselves.

Working on these lines I have found that acute cases of appendicitis with localised peritonitis, and even when accompanied by the presence of pus, do well, and the statistics I shall quote of my hospital cases for 14 years will show a very moderate mortality and much lower than that of my surgical colleagues who are advocates of operation in the earlier stages of the disease.

Cases with General Suppurative Peritonitis.

The above, however, is not the procedure to be followed when the symptoms and local conditions present point to the case being one of general acute suppurative peritonitis. Under such circumstances, the drainage of the peritoneal cavity is urgently called for, and it should be given by an incision in the right iliac region to allow of removal of the gangrenous appendix that invariably accompanies this state of things. In addition, there should be a median incision low down in the abdomen above the pubis, so as to get access to the pelvis. In both these incisions drainage-tubes should be placed. Rectal drainage I do not use, nor multiple incisions. No time should be occupied in flushing or wiping out the interior of the abdomen, but it may be rapidly explored by the finger towards the renal region and Douglas's pouch, so as to evacuate any collections of pus within reach. Rapid laparotomy should be the characteristic of the treatment, remembering the terse but useful rule, "Quick in and quicker out" (Murphy). If a general anæsthetic is used, it should be ether, as chloroform seems badly borne in these cases, setting up a condition of acetonuria which is often a fatal element in the case. When in bed the patient should be placed in the Fowler position and the introduction of saline fluid by continuous rectal injection carried out. Other measures, too, must not be neglected. Strychnine and digitaline or sparteine should be given hypodermically so as to meet the cardiac depression consequent on toxic absorption. Stimulants, too, may be necessary, and, if the state of the digestive system allows, easily assimilated nourishment should be administered. When there is much gastro-intestinal disturbance resort may be had to bismuth and small doses of calomel, or grey powder with a cautious use of Dover's powder for great pain and restlessness, and in these cases saline purgatives are quite allowable. Warm boric fomentations may be applied as a dressing over the drainage tubes, and changed every few hours. Should the streptococcus pyogenes be the microbe present, then the use of antistreptococcus serum is indicated. Fortunately, these cases of general suppurative peritonitis form a small minority in acute appendicitis, as all the efforts carried out for their relief are not always crowned with success.

WHEN TO OPERATE.

Coming now to the question *when* to operate in acute appendicitis I would reply as follows:—

1. When satisfied that there is diffuse suppurative peritonitis. As regards this last term, I would like it to be understood that I do not regard it as synonymous with "general peritonitis." Peritonitis may be general without being suppurative, and consequently not have the gravity of the other. In fact, I am doubtful if you can have a severe limited inflammation of the peritoneum without the whole sac sympathising in the attack even to the extent of secreting fluid into its interior, but it by no means follows that such fluid is infected. Such general peritonitis shows itself by distension and not by muscular rigidity, and does not call for operative interference. I have a feeling that it is often regarded too seriously, and made the grounds for a surgical interference that would have been better not undertaken, as it is a condition of the peritoneum that is very ready to take on infection.

2. I operate if during an acute attack of appendicitis a collection of matter points externally, and there is distinct evidence of fluctuation. This class of case is usually indicative of involvement of the retroperitoneal tissue, and represents the perityphlitis abscess of former days, but it may be an intraperitoneal abscess that has come forward and formed adhesions to the abdominal parietes.

3. I operate for the removal of the appendix as soon as the acute symptoms have subsided and when I find pulse, temperature, and blood-count normal.

4. I delay operating in cases where pulse, temperature, and blood count remain high, because I recognise the possibility of the existence of localised pus, which is the serious element of danger in operative measures. I continue the same line of treatment as before, but I do not delay operation indefinitely. I allow sufficient time to elapse—say, three or four weeks—to give an opportunity for the pus to absorb or for the formation of parietal adhesions, but, above all, for the lymph and possible pus to lose their virulence, which clinical experience shows me they do.

5. In cases, too, where the pulse and temperature are normal, but the blood count high, I also delay operation for the same period and for similar reasons, the delay being mainly to allow the pus, which the high blood count shows me is there, to become less virulent.

A great deal has been said of the value of high blood count as a guide to operation and as evidence of suppuration. My experience is that it is of no use as a guide in either the one or the other in the early stages of acute appendicitis. A high blood count in these latter conditions has its utility, for it shows a defensive power on the part of the patient that cannot but be helpful, but the only time when it is of real service in indicating the presence of pus is when it remains high after pulse and temperature have become normal.

HOW TO OPERATE.

As to *how* to operate under these varying conditions I have already given some indications in my remarks on treatment. In diffuse general peritonitis I incise in the right iliac region so as to come into touch with the appendix and remove it if easily found, obliterating its base by pressure and then securing it with a chromic gut ligature. In addition a suprapubic opening is made for drainage of the pelvis and any collections of matter within reach are evacuated by the finger as far as is possible, but no time is spent in cleansing out the abdominal cavity. Into both wounds drainage-tubes of a good size are introduced. In the case of abscesses showing themselves during an acute attack of appendicitis and becoming definitely fluctuant, they are opened, if possible, by an incision placed well behind so as to facilitate drainage, any concretion is removed, and a drainage-tube is inserted, but no search is made for the appendix.

For removal of the appendix after the acute symptoms have subsided I invariably use the rectus incision

for access to the abdomen. I have never employed any other, and I am in every way satisfied with it. I always, too, before searching for and isolating the appendix carefully pack off the general peritoneal cavity, and if the case presents any difficulty from adhesions I always enlarge the wound so as to get a good view of the parts and see what I am doing. I try always to do all my manipulations as far as possible outside the abdominal cavity. Generally I remove the appendix by working from its distal end, but sometimes I have divided its base first and then isolated it. My usual treatment of the stump of the appendix is by the cuff method, followed by burying it in the wall of the cæcum. This is thought by many a tedious and unnecessary plan, but it is a safe one. The wound is closed by relays of sutures commencing with the peritoneum. When operating for removal of the appendix, should a collection of matter be encountered I am guided by the conditions found. If the abscess is large and in any way adherent to the parietal peritoneum I content myself with draining the cavity and proceed no further, resuming the operation for the removal of the appendix some days subsequently when the abscess cavity is closed. In the case of small collections of pus I carefully remove their contents by swabbing, and as these contents have lost their intense virulence owing to the time that has elapsed since their formation I usually proceed to the further removal of the appendix, being careful not to close the wound but to drain it, filling the infected area with a loose packing of double cyanide gauze, suturing, however, all the portion of the abdominal wound not needed for drainage. Subsequently I am in no hurry to remove the packing, as it tends to form a barrier which shuts off the peritoneal cavity from the granulating surface of the wound. All these cases require careful after-dressing and watching.

SOME RESULTS OF TREATMENT.

Such are the principles of treatment which I have followed in all the cases of appendicitis that I have had under my care in the Glasgow Western Infirmary during the 14 years 1898–1911, and the following are the results:—

Total cases—		
Males	151	
Females	122	
	273	
Number who had had previous attacks...	134	
Condition on admission—		
(*a*) Subacute or quiescent	114	
(*b*) Acute	151	
(*c*) General suppurative peritonitis	8	
Cases dismissed well	264	
,, operated on	256	
,, declining operation	8	
Number of deaths	9 = 3·3%	
Cases with localised abscess	65	

In comparison with these figures I would place the appendix cases that have been in the other surgical wards of the Western Infirmary during the same years 1898–1911 and where a different line of treatment has been followed. These cases number 1927 with 231 deaths, a mortality of 11·9 per cent. over all. As these numbers include interval cases where the mortality is negligible, it really represents a very high death-rate amongst the acute cases. Another set of hospital figures that may serve for comparison is the number of cases treated in the other Scottish hospitals during a period of ten or five years, the figures being furnished to me by the various hospitals and hospital surgeons. The cases number 1399 with 169 deaths, a 12 per cent. mortality, but as 691 were interval operations with only three deaths, it gives 166 deaths for the 708 operated on during the attack, or a mortality of 23·3 per cent. Two individual surgeons kindly sent me returns of their own personal work, and their figures are of interest. One had 294 cases, of which 143 were interval operations with no deaths. Of the remaining 151 operated on during the attack 40 died, giving a mortality of 13·6 per cent. The other surgeon had 384 cases, of which 139 were interval operations without any deaths, but of the 245 operated on during the attack 49 died, a mortality of 12·7 per cent.

CONSIDERATION OF RESULTS.

Such are the figures that I have to put forward in support of the line of treatment that I have advocated and practise in cases of acute appendicitis. I know how misleading statistics often are, and how contradictory individual experience may be to what is considered the recognised therapeutic practice in any disease; but statistics have a relative value, and in this instance, for a special reason, I have chosen hospital ones, as they are the most unfavourable, seeing that they deal with what all must admit is the worst class of cases of this affection. I have no doubt many will say we have heard all this before, and it is teaching such as this which stands in the way of that early surgical interference in acute appendicitis which would give the brilliant results which will yet be attained. I quite admit that were every case of acute appendicitis dealt with by aseptic surgery within a few hours, say 12 to 24, of the onset of the attack, we might have what I will call a negligible mortality, but is it likely that such early interference can ever be attained? In every case of acute appendicitis early medical advice is not sought, for we are not always face to face with the alarming conditions that resemble those of a ruptured gastric or duodenal ulcer. Occasionally we are, and the severity of the symptoms present points to an appendix that has ruptured free into the peritoneal cavity. Such cases, we are all agreed, must be dealt with by immediate operation, but they are a small minority, possible 5 per cent., of those attacked by acute appendicitis. The other 95 per cent. have a totally different clinical history, and they embrace the several types of morbid changes that I have described—that is to say, peritonitis in a varying amount, but very often accompanied within 24 hours by the presence of effused inflammatory lymph. Given such an individual case, and recognising that an infective appendix is the exciting cause of the attack, one's natural impulse is to get rid of a structure that is the focus of microbial mischief. Such a view is sound reasoning, but is it practicable? There arises the other pertinent and equally clamant question, Can it be done without introducing a fresh element of danger after 24 hours? Unhesitatingly I say No.

Consider for a moment the actual position of affairs 24 to 48 hours after the attack in a case of plastic peritonitis. You gain access to the centre of trouble through the peritoneal cavity and, after packing it off as thoroughly as possible, you proceed to the necessary manipulations for the isolation and removal of the appendix. In doing so you separate lymph adhesions full of bacteria in an active state, and though the greatest care is exercised there takes place a wider and further dissemination of infective material and a larger area of peritoneum may become involved, the result being that in a large number of cases there is set up that general suppurative peritonitis which the operation has aimed at preventing and which nature was busy dealing with, and would in all probability have prevented had the case not been interfered with.

What I have just said holds equally true of the state of matters that might be found a few days later on, when a collection of pus might be encountered surrounded with matted coils of intestine and omentum and lying free in the abdomen, but shut off from the general peritoneal cavity. I hold strongly that interference with such an abscess in the first few days of its existence is a proceeding fraught with great peril to the patient, because the risks of its evacuation and subsequent after-treatment involve such a probability of infecting the general peritoneum that it is not justifiable, whereas if time was allowed it would possibly absorb, as often happens, or it would form adhesions to the parietal peritoneum, or, failing either of these courses, its contents would lose their virulence, of which I have proof that they do. I know that the rule laid down and that finds general acceptance is that the presence of pus in the abdomen makes immediate operation imperative. To that general dictum I take exception, and say that in the early stage of *localised pus in the abdomen* it is wrong, and that not only should immediate operation not be carried out, but to do so introduces a new element of risk into the case. I know the old cry that is at once raised of the danger of such an abscess bursting into the peritoneal cavity and setting up a general peritonitis. I do not deny the possibility of that happening, but I hold that clinically it does not do so if ordinary care as to diet, avoidance of laxatives, rest in bed, and, above all, absence of injudicious handling are observed. During 14 years of hospital work and the experience of a large number of cases of acute appendicitis with abscess, I have not found it take place. What does occur occasionally is the evacuation of the abscess

by the intestine, and I have had during that period some half dozen cases where this has happened. I know it is a strong position to take up that the existence of a localised intraperitoneal abscess is a distinct injunction not to operate, but in connexion with the malady we are now considering I do so, and I am certain that I am right.

PRINCIPLES ON WHICH NON-INTERFERENCE IS BASED.

I said at the beginning of my lecture that I thought the mortality in the surgical treatment of acute appendicitis was due to interference at the wrong time in what formed a large proportion of the cases dealt with, and that non-interference was based on the recognition of certain principles which I think merit special attention. These principles are four in number.

1. That in a very large proportion of cases of acute appendicitis there comes into play the characteristic power of the peritoneum to localise intra-abdominal inflammation, and the point to be settled, after the diagnosis of acute appendicitis has been made, is whether or not the case is one in which this limiting process is at work. If so, immediate operation is not called for.

It is often said that the question to be decided when the case is first seen is whether or not the appendix will perforate or become gangrenous, and that that is to decide for or against operation. I regard this as quite the wrong position to take up. The important point to satisfy oneself upon is whether or not the appendix, should it perforate or become gangrenous, will do so in the general peritoneal cavity, or whether it will do so amid surroundings that shut in any escaping contents or concretion, and enclose the sloughing organ within an area well defined by walls of lymph peopled with a host of protecting leucocytes. Time after time, when I have operated some three weeks after an acute attack I have found a mass of inflammatory adhesions shutting in a perforated appendix or the remains of one that has sloughed or ulcerated away. If further evidence was needed in support of this curative power on the part of the tissues and structures surrounding the appendix, it is furnished by the experience of surgeons in the numerous cases successfully operated on in the "interval," where there are seen traces of the extensive ravages wrought by previous attacks, all of which have ended in recovery.

2. That this salutary and curative action of the tissues and structures around the appendix can be materially helped by measures that lessen or remove the peristaltic action of the intestines. The non-observance of this rule, and the attitude of contempt that has of late prevailed in reference to it, is not justified, and there should be a restoration of confidence in the old expectant plan of medicinal treatment, as it is advantageously applicable to a large percentage of cases. As bearing on the question of rest to the abdominal viscera in acute appendicitis, the use of the ambulance wagon in these cases has always seemed to me the introduction of another unfavourable element. Not that it increases "shock," but the moving of the patient in and out of the vehicle, together with the jolting during transport, must spread the inflammatory area. I do not suppose a person with general suppurative peritonitis would be made any worse by being taken in an ambulance to a nursing home or a hospital, but I am not satisfied that this would be so when the condition was one of localised peritonitis. The movements of the ambulance break down adhesions and disseminate septic lymph through the abdomen and thus increase the danger. It certainly cannot be good for anyone with peritonitis to be taken through the streets in an ambulance. Hospital cases, of course, must be moved if operation is decided on, but I think private cases should be done in their own homes.

3. That in the early stage of acute appendicitis the exudation of localising lymph present is the seat of infective organisms, especially when small collections of pus are present, while the peritoneum in the vicinity is also in a weakened state and susceptible of further infection. Under these conditions, to pass down through the general peritoneal cavity and go through the necessary manipulations for the isolation and removal of the appendix is a proceeding of great risk, notwithstanding the taking of every care and precaution. I confess it has always been a matter of surprise to me that surgeons who hesitate to do an abdominal section if they have recently had any dealings with a septic case will at once attack a focus of microbial mischief and deal with it within the precincts of a large lymph space such as the peritoneum.

4. That in dealing with cases of acute appendicitis the element of *time* is a most important factor in all stages of the attack when deciding on the treatment to be followed. I am not prepared to say that within 24 hours an inflamed appendix cannot be safely removed, but after 24 hours have elapsed its removal is not to be carried out immediately unless diffuse general suppurative peritonitis is unmistakably present. In the subsequent progress of an acute case the beneficial effects of time in removing the infective power of the inflammatory lymph and also of any pus that may be present must be borne in mind and acted on, so that even with a subsidence of the acute general symptoms accompanied by normal pulse and temperature, removal should not be carried out unless the blood count is normal also. A high blood count calls for further delay and the lapse of an interval of three to four weeks from the commencement of the attack, unless adhesions should form and the abscess point on the surface of the abdomen or behind, when, of course, it should be opened.

CONCLUDING REMARKS.

The above are the principles, as I have said, on which I have worked during my years as a hospital surgeon, and they are the basis of the faith that is in me. And here I should like my position made clear so as not to be misunderstood. I do not wish to have it attributed to me, as has been done, that I do not approve of surgical interference in appendicitis. The 256 cases I have operated on successfully is an answer to that assertion, and shows that the very opposite is the case. What I do hold is that operative measures should be undertaken at the right time, and that that time is when the case has been brought to the conditions that constitute an "interval operation." Then, and then only, will we have complete success in the surgical treatment of appendicitis. Conscious as we still are of the loss that we as a profession and the world at large have sustained by Lord Lister's death, I would point out that although he has bequeathed to us a priceless heritage in the system of antiseptic surgery which he has elaborated for us, he has also left us with a duty, and that is to see that that system is never degraded in the use it is put to and never called upon to do impossible things. In antiseptic surgery and its aseptic form I am a firm believer, but I am not satisfied that it can successfully combat infection in dealing with localised intraperitoneal suppuration or infection, and it is not fair to ask it to accomplish what is beyond its powers. Until we have a vaccine that will neutralise the virulence of intraperitoneal pus in connexion with acute localised suppurative appendicitis, I consider our wisest course is to wait and allow its virulence to subside, as it will do through the agency of the local leucocytosis that is present. That this does happen Professor Muir's report furnishes confirmation. In short, what we must aim at in our treatment of acute appendicitis is to bring the conditions at operation as near as possible to those that mark the "interval stage," when we know we can operate with comparative safety. This has been my course of action in the cases I have treated for the last 14 years in the Glasgow Western Infirmary, and that it is possible my results show. It is because I consider they are better than those which follow the general application of the so-called *immediate operative treatment* that I have ventured to put them forward, and the principles they represent, for the consideration and judgment of the profession.

THE MEDICAL SICKNESS, ANNUITY, AND LIFE ASSURANCE SOCIETY.—The general meeting of this society, which consists of male members of the medical profession and licentiates of dental surgery, was held at 11, Chandos-street, Cavendish-square, London, W., on May 9th, when the report for the year 1911 was adopted. This report showed that at the end of 1911 the members of the society numbered 3038, an increase of 115. The funds amounted to £251,329. The amount paid in sickness benefit was £15,100, being the largest sum disbursed in any one year. Since the commencement of the society in 1884 over £200,000 have been distributed as sickness benefit. The annual premium income was £19,412. The management expenses have been very low and the total amount already paid as bonuses is £16,000. The address of the society is 33, Chancery-lane, London, W.C.

HEDONAL AS A GENERAL ANÆSTHETIC ADMINISTERED BY INTRAVENOUS INFUSION.

A REPORT ON 75 CASES.

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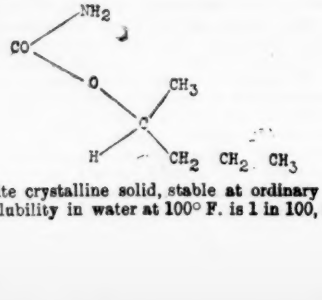
THE induction of general anæsthesia by the intravenous injection of drugs was first effected in man in 1872 by Oré.[1] The substance employed was chloral. Fifty-three cases were reported, in 51 of which satisfactory results were obtained. Further experience, however, proved that the procedure was not without danger, and the method does not seem to have been further developed till 1909, when Burckhardt[2] published his application of the principle—chloroform first and then ether being the anæsthetics made use of. In the following year Professor Federoff, of St. Petersburg, suggested a trial of the intravenous administration of hedonal. Since 1900 this drug had had some vogue as a hypnotic; it had also been given by the mouth as a precursor of chloroform and ether in several Russian clinics with satisfactory results. Reports of its use as a general anæsthetic first appeared in Russian journals[3]; a preliminary note was published in German in 1910[4]; and in the following year Jeremitsch[5] described the technique employed, giving details of 65 cases. At last year's Congress of the German Surgical Association Federoff[6] contributed a brief account of 530 cases collected from three Russian clinics; no death directly attributable to the anæsthetic was reported among the series.

The method adopted is one of interrupted injections. A 0·75 per cent. solution of hedonal in normal saline solution is placed in a flask from which it can be forced by air pressure; leading from the flask is a long rubber tube terminating in a fine hollow needle; a superficial vein is exposed, punctured by the needle, and a volume of fluid sufficient to produce general anæsthesia is injected; the needle is then withdrawn and reinserted for the purpose of further injections as they become necessary. In the course of an operation lasting 1 hour and 51 minutes five such injections were required. In Jeremitsch's 65 cases the total amount of fluid injected in any one instance varied from 325 c.c. to 1100 c.c. In two cases satisfactory anæsthesia was not obtained: in one the vein isolated was very small and the injection was carried out with difficulty; in the other instance, a case of varicose veins, the injection was made into the internal saphenous, and anæsthesia was not induced after the injection of 800 c.c. of fluid; in consequence of this latter experience Jeremitsch advises against infusion into the veins of the lower extremity. The only complication of anæsthesia which he records is respiratory depression; this appeared in one of his cases and was attributed to a too rapid injection of the fluid. Federoff notes that respiration was affected in 8 out of 530 cases. Jeremitsch states that vomiting or headache was usually absent in the post-operative period; he detected no evidence of irritation of the kidneys, and had no case of local thrombosis in the veins.

Hedonal anæsthesia has been employed at St. Thomas's Hospital in about 200 cases; in all instances satisfactory anæsthesia has been obtained. The conclusions in this paper have been based on the first 75 cases. I have adopted a method of continuous gravity-fed infusion, which seems to be simpler and as efficacious as the method hitherto employed. Before going into details of the technique and the general results I will give some account of the characteristics of hedonal.

Properties of Hedonal.

Hedonal, or methyl-propyl-carbinol-urethane, has the following formula:—



It is a white crystalline solid, stable at ordinary temperatures, its solubility in water at 100° F. is 1 in 100, it readily crystallises out of a saturated solution in long fine needles The solution can be boiled without the properties of the drug being affected, but prolonged heating diminishes the concentration owing to the volatilisation of a certain amount of the compound. It does not appear to alter in composition when kept for some months in the dry state.

Experiments on animals by Dreser[8] showed that hedonal had ten times the hypnotic effect of urethane and twice that of chloral; he found that the respiration was not materially affected in conditions of deep narcosis, and that it caused a slight fall in the blood pressure. He noticed that the drug had a diuretic action, which is attributed to the theory that in the body the substance breaks up into urea, carbon dioxide, and water.

Lampsakow (quoted by Krawkow[7]) carried out further experiments, and found that in dogs and rabbits a dose of 0·4 to 0·5 gramme to the kilogramme of body weight produced complete general anæsthesia; the respiratory and cardiac rhythm remained regular. If toxic doses were given the heart continued beating after paralysis of the vasomotor centre. He considered that the presence of the amino radicle antagonised the paralytic action of the drug.

No fatalities attributed to the use of hedonal as a narcotic have been recorded.[9]

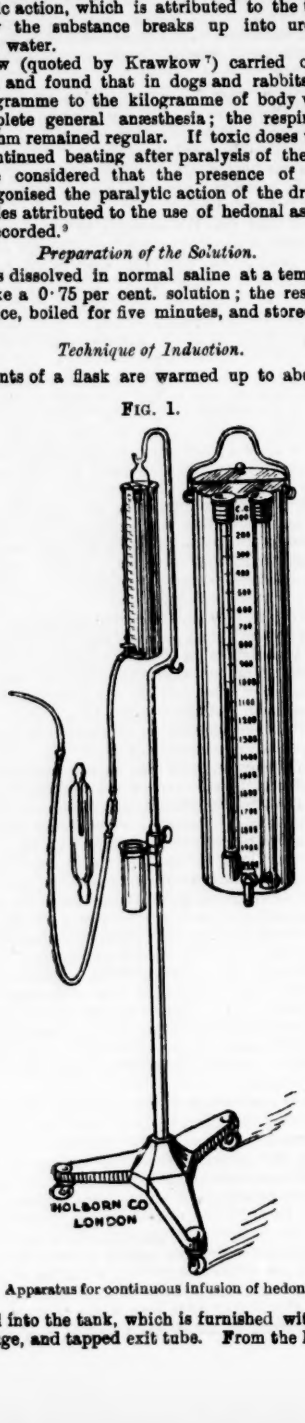
Preparation of the Solution.

Hedonal is dissolved in normal saline at a temperature of 70°F. to make a 0·75 per cent. solution; the resultant fluid is filtered once, boiled for five minutes, and stored in sterile flasks.

Technique of Induction.

The contents of a flask are warmed up to about 140°F.,

FIG. 1.



Apparatus for continuous infusion of hedonal.

and poured into the tank, which is furnished with a thermometer, gauge, and tapped exit tube. From the latter runs a

yard of pressure tubing; in the course of this a dropper is inserted; it terminates in an ordinary fine infusion cannula. The whole apparatus has been made for me by the Holborn Instrument Company (see Fig. 1). Before infusing, the temperature of the fluid in the tank is reduced to about 115°F., if necessary, by pouring in cold solution; for long operations the tank may be placed in a felt jacket, but usually the fall in temperature of the solution is not great enough to be of importance. A good-sized superficial vein is then exposed after the injection of ½ per cent. novocaine into the skin; into this the cannula is tied as for an ordinary venous infusion. The fluid is then run in at a rate of 50—150 c.c. to the minute; the rapidity of flow can be accurately controlled by regulating the tap and watching the flow through the dropper. In the first 50 cases the median basilic or cephalic veins were selected for infusion; under these circumstances the arm chosen must be fixed, either to a bracket of the operation table or to a separate stand; latterly we have usually injected the internal saphenous vein where it passes over the internal malleolus; this procedure has the advantage that the leg requires no special fixation, the resulting scar is out of sight, and the anæsthetist and his apparatus are well out of the way of the surgeon for most operations.

Phenomena of Anæsthesia.

A minute or so after the commencement of the infusion the patient becomes drowsy, he often yawns, he has a subjective feeling of warmth and well-being, the face flushes, and if the infusion is too rapid a certain degree of cyanosis may arise. Then follows a period in which the patient appears to be in a state of deep natural sleep; this stage merges rapidly into one of complete general anæsthesia, the deep reflexes are absent, and the corneal reflex absent or sluggish; the pupil usually contracts; the muscles, including those of the jaw, become slack. In none of the cases has there been any struggling, a few have shown slight movements of the extremities, and some talk incoherently during induction. The respiration remains quiet and regular unless it is obstructed by the falling back of the tongue, an emergency which must be guarded against; the pulse remains full and steady, the blood pressure drops slightly, and then remains fairly constant (see Fig. 2).

Course of Anæsthesia.

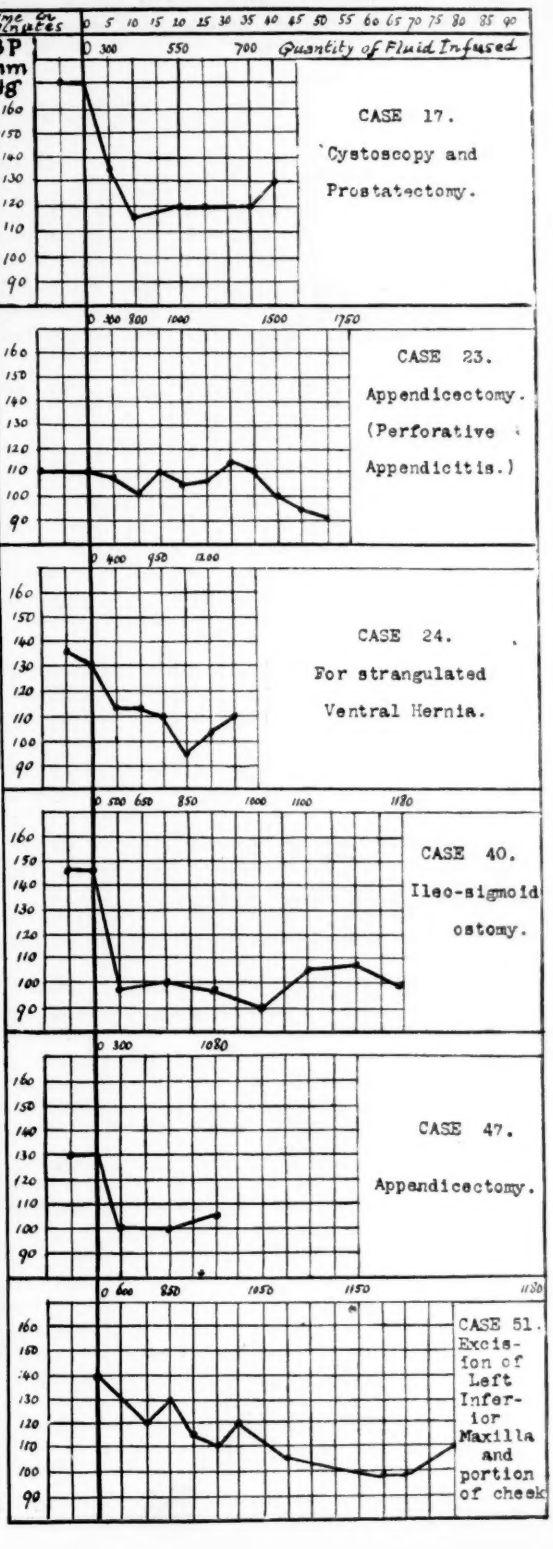
The amount of fluid necessary to induce anæsthesia varies considerably, 40 c.c. having sufficed in a child of 10 months; 1000 c.c. were necessary in a heavily built man of 25; the average dose required for an adult is 500 c.c. The period of induction has varied from 2 to 13 minutes.

As soon as anæsthesia is established the rate of flow of the fluid is cut down to a slow drip; the necessary rate varies with the type of patient, and is soon gauged by experience. Whenever the reflexes show signs of returning the rate of flow is again temporarily increased. The largest total amount of solution used in this series was 1750 c.c. given to Case 31, a man aged 61, anæsthesia lasting over an hour. The greatest duration of anæsthesia was 1 hour and 35 minutes in Case 60, a woman aged 36, 1125 c.c. of solution being used. It is noticeable that old people require less of the drug than do younger ones of similar body weight.

Post-operative Course.

The rate of return to complete consciousness is slow though variable; usually the patient sleeps for 6 to 12 hours after the cessation of the anæsthetic, and then awakes; drowsiness may persist for 24 hours. In three cases there has been some emotional disturbance at this stage. In some instances (17 in this series) a period of excitement comes on an hour or so after the operation; the patient, however, soon settles off to sleep if morphia is given in the usual dosage; when consciousness completely returns there is no memory of this stage. Vomiting is exceptional unless there is some irritative cause for it; it occurred in 12 cases, but in no

FIG. 2.—*Blood-pressure Tracings.*



DESCRIPTION OF FIG. 2.—The blood-pressure was taken at five- or ten-minute intervals during the operation by means of a Riva-Rocci apparatus applied to the arm. The horizontal lines represent the blood-pressure in millimetres of mercury; the vertical lines represent the time in minutes, the space between two adjacent lines representing five minutes. At the top of each chart is placed the quantity of fluid infused in cubic centimetres up to that point in the operation; the last number marks the time of the cessation of the infusion and approximately of the operation. The charts are so arranged that the point when the infusion was commenced is in each case placed in the same vertical line.

TABLE *showing Details of 75 Cases of General Anæsthesia obtained by Continuous Infusion of Hedonal dissolved in Normal Saline Solution. The cases are arranged in chronological order. An asterisk beside the number of the case denotes that the infusion was made into the internal saphenous vein; in the other cases the median basilic or cephalic vein was selected.*

Case.	Age.	Sex.	Operation.	Strength of solution.	Induction.		Subsequent progress of infusion.		Duration of operation.	Total quantity.	After-effects.		Remarks.
					Duration.	Quantity required.	Duration.	Quantity.			Headache.	Vomiting.	
1	48	M.	Passing sounds.	%	min.	c.c.	min.	c.c.	min.	c.c.	None.	None.	—
2	38	F.	Curetting tuberculous metacarpal bone.	0·75	6	500	4	200	5	700	None.	None.	—
3	36	F.	For inguinal hernia.	0·75	5	350	8	200	8	550	Very slight.	,,	—
4	43	F.	Amputation of thigh.	0·75	10	600	10	250	15	850	Moderate.	,,	Patient complained of headache 4 hours after operation, but 10 hours later had no memory of previous complaint.
5	47	M.	Curetting ethmoid cells. Removal of polypi.	0·75	5	400	20	250	25	650	None.	,,	Amputation performed through lower third of thigh for compound fracture of tibia and fibula. Severe toxic symptoms.
6	13	F.	For deflected nasal septum (submucous resection).	0·75	3	300	13	510	36	810	Slight.	Once, blood swallowed during operation.	Well-marked coughing reflex maintained, especially towards the end. Patient became restless about 8 hours after operation, and had injection of morphine.
7	31	M.	Incisions for Ludwig's angina.	0·75	4	350	17	450	21	800	,,	Once, blood swallowed during operation.	Patient complained of slight headache during night after operation, but remembered nothing about it the following morning.
8	43	M.	Passing sounds.	0·75	9	450	3	300	8	750	None.	None.	Onset of cellulitis very acute; moderate in degree only.
9	45	F.	Maxillary antrotomy.	0·75	5	550	11	500	11	1050	,,	,,	Same patient as Case 1.
					13	(?760)	22	650	28	(?1410)	Moderate	Once, blood swallowed during operation.	Infusion apparatus leaked during induction.
10	25	M.	For adenitis of groin.	1·0	3	350	4	150	4	500	None.	None.	—
11	14	M.	For tuberculous adenitis of neck.	1·0	3	350	16	520	21	870	,,	,,	Slight cyanosis after induction. Rather deep narcosis.
12	60	M.	Suprapubic cystotomy; passing sounds, followed by removal of polypi.	1·0	5	450	23	650	55	1100	,,	,,	Duration of cystotomy was 23 mins.; the remaining 32 mins. were occupied in removing polypi.
13	33	M.	For hæmorrhoids.	1·0	5	600	12	500	12	1100		,,	Patient was restless 12 hours after operation, but he was controlled by an injection of morphine. He was very emotional on the day following operation.
14	40	F.	Amputation of breast.	1·0	5	300	19	300	24	600		,,	—
15	25	M.	For hernia and hydrocele.	1·0	2	400	18	620	20	1020	Very slight.	,,	—
16	34	M.	Passing sounds.	1·0	½	250	3	150	6	400	,,	,,	—
17	64	M.	Cystoscopy and prostatectomy.	1·0	3	200	34	500	37	700	None.	,,	Good muscular relaxation.
18	21	M.	For hernia.	1·0	7	450	16	550	16	1000	Very slight.	Once 17 hours after operation.	Patient was rather restless during night after operation. Temporary block in cannula during induction.
19	60	F.	Amputation of leg at site of election.	0·75	11	550	13	200	22	750	None.	None.	Amputation performed for compound fracture of tibia and fibula.
20	40	F.	For ruptured ectopic gestation.	0·75	6	250	30	1150	37	1400	,,	,,	Before operation patient was extremely blanched. Pulse could just be felt at the wrist. When patient was put back to bed after operation pulse was of fair volume.
21	73	F.	Amputation of thigh.	0·75	7	320	7	180	13	500	,,	,,	Circular amputation for senile gangrene of foot. Death one month later with gangrene of other leg.
22	17	F.	Transpleural exploration for subphrenic abscess on left side.	0·75	7	400	15	400	24	800	,,	,,	Patient's condition poor. She was recovering from general peritonitis, secondary to appendicitis.
23	30	M.	Appendicectomy (perforative appendicitis).	0·75	11	750	43	1000	49	1750	,,	,,	Patient was suffering from compensated mitral disease. Complete muscular relaxation was obtained.
24	34	F.	For strangulated ventral hernia.	0·75	4	350	24	850	31	1200	,,	,,	—
25	22	M.	Appendicectomy (spreading peritonitis).	0·75	7	550	20	400	24	960	,,	,,	—
26	71	M.	Amputation of thigh.	0·75	5	450	9	200	14	650	,,	,,	Amputation was performed through lower third of thigh for gangrene. Urine contained albumin, sugar, acetone, and diacetic acid. Before operation pulse was 82, after 72. He slept during the night of operation and was quite conscious the following morning. He became drowsy during the evening and died comatose 32 hours after operation.
27	29	F.	Cholecystostomy for suppurating hydatid cysts in gall-bladder.	0·75	8	450	35	700	42	1150	,,	,,	Complete muscular relaxation enabling the necessary manipulations to be performed with great ease.
28	50	M.	For hernia.	0·75	8	400	15	250	18	650	,,	,,	Patient was emotional 6 hours after operation, alternately weeping and singing.

Continuation of Table of 75 Cases of General Anæsthesia by Intravenous Infusion of Hedonal.

Case.	Age.	Sex.	Operation.	Strength of solution.	Induction.		Subsequent progress of infusion.		Duration of operation.	Total quantity.	After-effects.		Remarks.
					Duration.	Quantity required.	Duration.	Quantity.			Headache.	Vomiting.	
				%	min.	c.c.	min.	c.c.	min.	c.c.			
29	54	M.	Excision of recurrent malignant glands of neck.	0·75	5	400	37	1600	39	2000	None.	None.	Slight restlessness 10 hours after operation. This patient had had chloroform on a previous occasion; he stated that he much preferred the intravenous method because induction was much more pleasant, there was no vomiting, and he felt much better after coming round.
30	41	M.	Passing sounds and for hernia.	0·75	4	350	15	600	17	950	,,	,,	Patient was slightly excited 5 hours after operation.
31	61	M.	Hemilaryngectomy.	0·75	7	550	46	1200	1 hr. 3 m.	1750	,,	,,	A preliminary tracheotomy was performed and a Hahn's tube inserted. The operation was carried out with great comfort; there was no coughing, and owing to the quiet respirations the larynx remained motionless.
32	21	M.	For hæmorrhage after gastro-enterostomy.	0·75	5	200	22	80	min. 32	280	,,	,,	Patient was taken up to the theatre 4 hours after the first operation. Pulse was 146 per minute, irregular, and very feeble. Pulse improved considerably during operation, but an hour later became more rapid and feeble. On the following morning patient's condition was much improved, and he finally made a good recovery.
33	22	F.	Resection of rib for subdiaphragmatic abscess.	0·75	2	200	7	60	8	260	,,	,,	Operation was performed for empyema following a partial gastrectomy for extensive carcinoma of stomach. There was severe dyspnœa, patient being unable to remain recumbent.
34	40	F.	For ventral hernia.	0·75	6	650	1 hr. 1 m.	890	1 hr. 12 m.	1540	,,	,,	Complete muscular relaxation; abdomen almost motionless. Developed post-operative mania on seventh day.
35	54	M.	For strangulated hernia.	0·75	6	700	min. 41	770	min. 44	1470	,,	,,	—
36	58	F.	Excision of tongue and glands for carcinoma.	0·75	5	48	45	400	45	880	,,	,,	—
37	18	F.	Adenoma of thyroid.	0·75	10	600	26	550	28	1150	,,	3 times.	Patient vomited 9 hours after operation, but she only remembered vomiting once.
38	18	F.	For hernia.	0·75	6	630	13	250	15	880	,,	None.	Patient was somewhat restless during night following operation.
39	62	M.	Prostatectomy.	0·75	3	300	12	225	18	525	,,	For 2 days commencing 48 hours after operation.	The vomiting was considered uræmic since the quantity of urine in 24 hours was much diminished, and patient recovered after treatment by hot baths, &c.
40	42	F.	Ileo-sigmoidostomy.	0·75	5	500	1 hr. 1 m.	680	1 hr. 10 m.	1180	,,	3 times.	Patient was stout. Abdomen was flaccid throughout operation.
41	57	M.	Amputation of toe.	0·75	4	400	min. 3	100	min. 9	500	,,	None.	Complete return of consciousness 1 hour after operation.
42	49	M.	Syme's amputation.	0·75	5	300	36	810	43	1110	Slight.	,,	—
43	62	M.	Excision of fibroma from aryteno-epiglottic fold.	0·75	4	350	24	700	24	1050	None.	,,	Tumour removed through bronchoscope.
44	50	F.	For double femoral hernia.	0·75	5	420	16	400	20	820	Moderate.	None.	—
45	34	M.	For hernia.	0·75	4	420	12	500	16	920	None.	,,	—
46	27	M.	,,	0·75	7	1000	16	250	20	1250	,,	,,	This patient had had a previous anæsthetic for a varicocele 10 years ago; he stated that he much preferred the intravenous method.
47	15	F.	Appendicectomy.	0·75	4	300	24	780	28	1080	,,	Once; 9 hours after operation.	On return of consciousness patient had no memory of vomiting.
48	14½	M.	Amputation of leg at site of election.	0·75	3	250	33	330	35	580	,,	None.	This patient had been given chloroform a few days before; when asked, he said he preferred the intravenous method.
49	62	F.	Excision of malignant glands of axilla.	0·75	4	350	29	450	35	800	,,	,,	—
50*	68	F.	For inguinal hernia.	0·75	4	500	25	350	31	850	,,	,,	Slight cyanosis during induction. Erythematous rash appeared on body 12 hours after operation. Slight itching.
51*	46	M.	Excision of inferior maxilla and portion of cheek on left side for carcinoma.	0·75	6	600	1 hr. 29 m.	580	1 hr. 34 m.	1180	,,	,,	—
52*	10 ms	M.	For hernia.	0·75	8	40	min. 10	60	min. 11	100	Not apparent.	,,	Abdomen completely relaxed. Patient's colour was very good throughout.
53*	59 yrs.	M.	For epithelioma of floor of mouth.	0·75	7	600	55	650	1 hr.	1250	None.	,,	—
54*	50	F.	For ventral hernia.	0·75	8	700	1 hr. 5 m.	625	1 hr. 7 m.	1325	Slight.	,,	Cyanosis. Patient suffered from varicose veins. This might account for the somewhat large quantity required for induction. The patient remained sleeping for 10 hours after the operation.

Continuation of Table of 75 Cases of General Anæsthesia by Intravenous Infusion of Hedonal.

Case.	Age.	Sex.	Operation.	Strength of solution.	Induction.		Subsequent progress of infusion.		Duration of operation.	Total quantity.	After-effects.		Remarks.
					Duration.	Quantity required.	Duration.	Quantity.			Headache.	Vomiting.	
				%	min.	c.c.		c.c.		c.c.			
55*	66	M.	Excision of carcinomatous ulcer of cheek and glands.	0·75	6	625	1 hr. 22 m.	575	1 hr. 27 m.	1200	None.	None.	Slight bronchitis; cough present before operation. Moderate cyanosis was present during early part of operation; probably rather deep narcosis.
56*	25	M.	For caries of sternum.	0·75	4	250	min. 7	105	min. 9	350	,,	,,	This patient had signs of old phthisis. He suffered from cough before operation. Cough was worse for 12 hours after operation. Large quantity of frothy mucus expectorated.
57*	35	F.	Excision of adenoma of thyroid.	0·75	9	700	20	450	24	1150	,,	,,	This patient had slight exophthalmos. Pulse 90. She was emotional during induction. A marked feature was the absence of engorgement of veins during operation.
58	37	M.	Amputation of thigh for senile gangrene of leg.	0·75	6	300	16	200	21	500	,,	,,	Patient apparently suffered no shock from the operation.
59	38	M.	Suturing cut thigh.	0·75	8	520	30	760	30	1280	,,	Once, 7 hours after operation.	On the morning after operation patient had no memory of vomiting.
60*	36	F.	Uretero-cæcostomy.	0·75	5	300	1 hr. 30 m.	825	1 hr. 35 m.	1125	,,	Once.	Operation performed for extensive papilloma of bladder. Complete muscular relaxation. On morning after operation, patient had no memory of vomiting.
61*	40	M.	For hernia.	0·75	12	675	min. 36	275	min. 41	950	Slight.	None.	—
62*	15	F.	Appendicectomy (spreading peritonitis).	0·75	11	550	20	400	24	950	None.	,,	—
63*	45	F.	Excision of recurrent malignant glands of axilla.	0·75	8	740	54	475	54	1215	Moderate	Once, 9 hours after operation.	Patient had been given ether for two previous operations. She stated that she much preferred the intravenous method. No recollection of vomiting. Restlessness 12 hours after operation controlled by morphine.
64*	23	M.	Excision of axillary glands.	0·75	10	700	1 hr. 10 m.	520	1 hr. 10 m.	1220	None.	None.	—
65*	65	F.	For acute obstruction and general peritonitis due to carcinoma of rectum.	0·75	7	150	min. 18	310	min. 19	460	,,	,,	Patient's condition was very bad before operation. She improved somewhat afterwards. Consciousness returned 4 hours after operation. Patient died 12 hours later.
66*	4	M.	Colostomy for idiopathic dilatation of colon.	0·75	8	300	23	175	37	475	,,	,,	Cyanosis shortly after operation was commenced; abolished by drawing forwards tongue and giving oxygen.
67*	23	F.	Excision of adenoma of thyroid.	0·75	5	400	35	300	35	700	,,	,,	Patient was given hypodermic injection of scopolamine gr. 1/100, atrop. sulph. gr. 1/120, morph. gr. 1/6 half an hour before operation. History of stridor. At operation trachea found to be scabbard-shaped, and during delivery of tumour trachea was kinked, causing respiratory obstruction, which was at once relieved by removal of tumour. Oxygen given. Recovery uninterrupted.
68*	26	F.	Nephrectomy for tuberculous kidney.	0·75	5	400	55	400	52	800	,,	,,	
69*	68	F.	For umbilical hernia.	0·75	5	250	25	200	35	450	Slight.	Once, 9 hours after operation.	Previous hypodermic injection of scopolamine gr. 1/100, atrop. sulph. gr. 1/120, morph. gr. 1/6. At the close of operation cannula became blocked owing to coagulation of blood which had regurgitated, this being caused by temporary lowering of cannula. Some cyanosis was present during the early part of operation.
70*	36	M.	Radical cure of double inguinal hernia.	0·75	6	250	45	390	45	640	,,	None.	Three-quarters of an hour before operation patient was given 4 grm. of hedonal by mouth. He was semi-comatose at commencement of operation; no local anæsthetic was required for exposure of vein. Complete return of consciousness 15 hours after operation.
71	24	M.	For varicose veins.	0·75	9	475	35	750	44	1225	None.	,,	Hedonal before operation as in Case 70. Consciousness completely returned 12 hours after operation ended.
72	46	M.	For hæmorrhoids.	0·75	10	450	7	100	10	550	,,	Once.	Hedonal was given by the mouth as in Case 70. Return of consciousness 12 hours after operation.
73	29	F.	For varicose veins.	0·75	8	700	24	550	25	1250	Slight.	None.	—
74*	21	M.	For perforated duodenal ulcer.	0·75	11	710	37	700	47	1410	None.	,,	—
75*	38	F.	Exploration of cerebral tumour.	0·75	5	300	25	500	35	800	,,	Once.	—

instance was it persistent. Headache of slight degree and lasting part of a day was complained of in 15 cases. The urine showed no change in any of the cases in which it was tested for the common abnormalities. Dr. H. B. Weir examined the blood before, during, and after anæsthesia in six cases and did not find any evidence of hæmolysis. In no case has there been any evidence of local thrombosis in the veins; among the later cases thrombosis has been observed in 3 patients.

Dangers of Hedonal Anæsthesia.

Cyanosis is the only symptom in this series which has given cause for alarm. A certain degree is common during the initial stage of anæsthesia and passes off if the rate of flow of the fluid is diminished. It has appeared during the course of the operation in six instances (Cases 11, 12, 54, 55, 67, and 69), and in all except Case 54 it was caused by obstruction of the air passages—either from the falling back of the tongue and jaw or from pressure on the trachea; in Case 54 a large dose of fluid had been infused unusually rapidly, and the respiratory movements became slow and shallow, the normal rhythm returning a few minutes after the inflow had been cut down. Federoff [6] reports that temporary stoppage of respiration occurred in 8 out of 530 cases, in each instance normal breathing setting in again after a few movements of artificial respiration.

Disadvantages of the Method.

The exposure of an adequate vein sometimes gives difficulty. If the novocaine injection is properly made the procedure is painless. In children the vein is necessarily small, but in Cases 52 and 66 the internal saphenous vein where it lay over the internal malleolus proved to be of sufficient size. Induction of anæsthesia may be slow if the fluid does not flow freely. Such a state of affairs may be due to the use of too small a cannula, to partial block in the tubing, or to the selection of a vein of exceptionally narrow calibre. In one or two instances where infusion was carried out in the leg slow induction has seemed to be associated with a varicose condition of the veins, the fluid percolating all the vessels of the lower extremity, and, as it were, remaining for a time in a backwater of the general circulation.

The prolongation of narcosis after the operation may be undesirable in trivial cases; it might prove dangerous from the inhalation of vomitus in cases of unrelieved intestinal obstruction.

Advantages.

The technique is simple, the solution readily handled and sterilised, and the active part is not volatile. The anæsthesia attained is of a steady and complete type; the relaxation of the muscles is remarkable, being often as good as that given by spinal anæsthesia. The respiratory movements are steady and quiet. The removal of the anæsthetist from the scene of the operation in head and neck cases is a distinct advantage. In cases of hæmorrhage or collapse the combination of the anæsthetic with infusion is very valuable; this was particularly noticeable in Cases 20, 22, 27, 32, and 33. The absence of any inflammatory complication of the lungs has been a noticeable feature in this series; in only three instances (Cases 55, 56, and 70) have any been observed. The quiet sleep, insensitiveness to pain, and absence of straining—conditions which usually last from six to eight hours after operation—are certainly very desirable in many cases.

Owing to the comparatively slow rate at which the drug is excreted very small quantities of solution suffice to maintain anæsthesia, when once it has been completely established; thus in Cases 51 and 60 the operation lasted over an hour and a half, the total amounts of fluid infused being 1180 c.c. and 1125 c.c. respectively.

In operations on the thyroid and larynx (Cases 31, 35, 57, and 67) the quiet even anæsthesia is very satisfactory. In all cases the patients experience pleasant sensations throughout the induction period, and they seldom complain of any evil after-result.

Contra-indications to the Method.

In conditions where there is marked engorgement of the lungs, or when the cardiac action is not properly compensated, infusion anæsthesia is likely to put a dangerous strain on the right side of the heart. In cases of nephritis it might be expected that the kidneys could not adequately deal with the infused solution, but in Cases 12, 17, and 39, in which there was evidence of chronic nephritis, no ill-result ensued. In Case 68 the right kidney was excised from a patient suffering from general tuberculosis of the urinary system; there were no uræmic signs at any time, and she has made a good recovery. It is noticeable that the amount of fluid necessary to produce anæsthesia in these cases was not very large. Arterio-sclerosis and conditions in which the blood pressure is high do not seem to be absolute contra-indications to the use of the method.

From the limited experience of this series of cases I have been led to conclude that the method is a safe and sure one in patients up to middle age, providing that there is no gross pulmonary or cardiac lesion; in the aged or in cases where there is myocarditis or marked arteric-sclerosis great care in the administration is required, as the safe margin allowable for overdosage is undoubtedly narrower.

A few attempts were made to reduce the necessary amount of fluid infused by administering other drugs before the induction. In Cases 67 and 69 an injection of scopolamine gr. 1/100, morphine sulphate gr. 1/6, and atropine sulphate gr. 1/120 was given half an hour before operation; in Cases 70, 71, and 72 4 grammes of hedonal were given in an emulsion about three-quarters of an hour before operation, and followed by a hot drink of some kind. In the first two cases the amount of solution necessary to produce anæsthesia was rather less than might have been expected, but in both instances more cyanosis than usual was developed during anæsthesia; in Case 67, in which a thyroid adenoma was enucleated, this was chiefly due to mechanical pressure on the trachea. Of the latter three cases 70 and 72 were partly narcotised before the commencement of the infusion, and required much less than usual of the solution. Case 71 was in a state closely resembling the excitation stage of ether anæsthesia, but required a considerable dose to induce complete narcosis. All three slept heavily after the operation and seemed somnolent and somewhat depressed during the following day. I think that for strong, healthy patients a dose of 3 grm. of hedonal given about two hours before the operation would give better results.

Analysis of Cases which Terminated Fatally.

In this series no death has occurred which could be attributed to the anæsthetic. Five died at some period subsequent to the operation while still in hospital. An account of the course of these cases follows:—

CASE 19.—The patient was a female, aged 60, with compound comminuted fracture of the leg. Amputation below the knee. The wound healed well, and the patient appeared to be in a state of good general health till three weeks after the operation, when she died suddenly with the signs of pulmonary embolism. Post mortem a large ante-mortem clot was found in the pulmonary artery; there was no evidence of local thrombosis in the vein (median basilic), which was used for the infusion.

CASE 21.—The patient was a female, aged 73, suffering from senile gangrene of the feet. Amputation through the thigh. Death ensued one month later from spreading gangrene of the remaining leg.

CASE 26.—The patient was a male, aged 71, suffering from diabetic gangrene of the foot. Amputation through the thigh. The patient was in a drowsy state before operation, and died in coma 32 hours afterwards. The urine contained much sugar, diacetic acid, and a fair quantity of albumin before the operation.

CASE 27.—The patient was a female, aged 24, with a suppurating hydatid cyst of the liver; cholecystostomy; death one month later. Post mortem there were found suppurative cholangitis, suppurating cyst of the liver, empyema, and general peritonitis.

CASE 65.—The patient was a female, aged 65, with carcinoma of the rectum. Laparotomy for acute intestinal obstruction. At the operation general peritonitis was found following a perforation in the large bowel. The patient was in a state of extreme collapse before the operation; she improved after the infusion, but sank again afterwards, and died seven hours later.

Since writing the above a death from syncope has occurred in a feeble old man half an hour after the administration of hedonal. A gastrostomy had been performed; signs of heart failure set in directly after the administration of a feed. Post mortem a carcinoma of the œsophagus opposite the bifurcation of the trachea was found, from which an abscess

had spread into the mediastinum. The aortic valves were grossly diseased and incompetent.

Summary.

1. The intravenous infusion of a 0·75 per cent. solution of hedonal in normal saline solution produces general anæsthesia.
2. Administration of the solution by continuous infusion gives good results.
3. The anæsthesia is steady and complete; is associated with great relaxation of the muscles, and has a wide margin of safety.
4. During anæsthesia the respiration remains steady and the pulse good; the blood pressure usually falls slightly.
5. The induction of anæsthesia is subjectively very pleasant to the patient; little if any excitement occurs during this stage.
6. Anæsthesia is established in from 5 to 10 minutes; the rate of inflow of the fluid should be from 50 to 150 c.c. to the minute; a slower rate greatly delays the induction of anæsthesia; a more rapid one may produce signs of cyanosis.
7. The comparatively slow rate at which the drug is excreted make it possible to maintain anæsthesia for prolonged periods without infusing a very large volume of fluid.
8. The anæsthetic stage usually merges into one of deep sleep, which lasts from 6 to 12 hours.
9. Vomiting or headache at the post-operative period is uncommon.
10. Pulmonary complications are rare.
11. The dangers which may arise during anæsthesia are respiratory depression from an overdose of the drug and respiratory obstruction from falling back of the tongue and jaw.
12. The method is very suitable for operations about the head and neck; the muscular relaxation and quietness of the respiratory movements also make it a valuable anæsthetic for operations in the upper part of the abdomen.

In conclusion, I wish to acknowledge the courtesy of the members of the surgical staff of St. Thomas's Hospital in permitting me to make use of the cases admitted under their care. I am indebted to several of my colleagues for much assistance in carrying out these observations, more especially to Mr. B. C. Maybury, surgical registrar, who has done a great deal of work in the matter and has prepared the tables giving details of the cases and the blood pressure records.

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VICIOUS CIRCLES ASSOCIATED WITH DISORDERS OF THE NOSE, THROAT, AND EAR.

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THE importance of the morbid process known as the vicious circle has of recent years come to be widely recognised. There are few ailments that do not in some measure come within the orbit of its perturbing influence, and the practitioner will reap a rich reward who is ever on the look-out for this complication, and who bases his treatment on a full recognition of the ceaselessly acting and reacting forces that constitute the circle. In the following article attention is drawn to an interesting group of circles associated with the nose, throat, and ear. Some of these are important because very common; others because of their frequently fatal issue.

I. *The Nose.*

Diseases of the nose are frequently complicated by the operation of a circle, which largely accounts for the rebellious nature of many disorders. Stenosis and abnormal patency play a leading part in the genesis of such a complication and will be dealt with first.

Stenosis.—In regard to stenosis some of the reciprocal relations may be thus stated: "Obstruction, by preventing or interfering with the expulsive force of the expiratory current, prevents the removal of the usually abnormal amount of secretion, either by blowing the nose or otherwise; its accumulation is in its turn an efficient factor in producing obstruction, and a vicious circle ..... is thus established."[1] Inflammatory and hypertrophic affections of the nasal mucosa also react on one another where stenosis is present; for the secretions, being unduly retained, are then specially apt to undergo putrefaction and keep up irritation. Post-nasal growths, such as adenoids, likewise tend to increase as a result of a circle, at any rate so long as nasal respiration continues. For every act of inspiration lessens the barometric pressure behind the obstruction, and thus leads to hyperæmia and hypertrophy. Especially is such hypertrophy brought about in children whose lymphoid tissue so readily responds to stimulation.[2] Hypertrophic rhinitis is another frequent result of chronic stenosis, acting by the barometric rarefaction associated with inspiration that has just been alluded to.

Watson Williams[3] has pointed out that deflection of the septum and nasal obstruction react on each other. The deflection causes stenosis on the side of the convexity, leading to diminished pressure behind the obstruction, which diminution tends to aggravate the deflection. A somewhat similar "vicious circle of events," in the words of Risley,[4] occurs when, owing to deformities of the scroll bones of the nostrils and to deviations of the septum or vomer, the nasal chamber is so narrowed that the opposing sides come into contact or approach so nearly that any congestion of the lining mucosa brings them together. Here, too, a self-aggravating factor comes into play, since the opposing pressures impede the congestion. Congestion breeds congestion. The nose becomes stopped by the turgid soft tissues and drainage is checked.

Mouth-breathing introduces a further aggravating factor[5]; "a vicious circle is set up. Mouth-breathing tends to obstruct the nose, and this very obstruction maintains and continues the mouth-breathing."[6] The tendency to adenoids is also increased by mouth-breathing. Oral respiration, when begun in early life and associated with malnutrition and debility, is of some sociological interest. For the partial abeyance of the respiratory function has far-reaching effects, and perpetuates a condition of impaired vitality, and the victim muddles through life at a low level of health. Especially is this result probable when mouth-breathing is established in infancy. The nasal passages are then so narrow that even slight engorgement leads to complete closure. Another circle associated with stenosis is collapse of the alæ nasi. The nostrils collapse instead of expanding on inspiration, and may thus convert the anterior nares into mere slits. In severe cases the alæ may actually fall against the septum.

Abnormal patency.—Abnormal patency of the nasal fossæ due to an enlarged interval between the spongy bones and the septum has much to do with the circle that complicates atrophic rhinitis or ozæna. For as the velocity of a stream grows less with a wider channel so does the air passing through the enlarged nasal passages lose the velocity and force required to expel the tenacious nasal secretions. Hence result stagnation, putrefaction, fœtor. In course of time the inspissated secretions contract like a film of collodion, leading to anæmia and atrophy of the mucosa, to shrinking of the turbinals, and to yet greater patency of the meatuses. Thus the morbid condition is perpetuated. Greville MacDonald has observed a similar sequence after the removal of a polypus.

Sinusitis.—Reciprocal relations are frequently established in connexion with sinusitis. Owing to the narrowness of the ducts draining the sinuses congestion readily leads to partial obstruction followed by retention and putrefaction of the secretions. The consequent irritation provokes further swelling and finally complete obstruction. In some cases—

[1] Ashhurst: Cyclopedia of Surgery, vol. v., p. 404.
[2] Greville MacDonald: Diseases of the Nose, p. 20.
[3] Diseases of the Upper Respiratory Tract, p. 337.
[4] Brit. Med. Jour., 1906, vol. ii., p. 1869.
[5] Stoerk long ago pointed out that the nasal mucosa can only remain healthy and carry out its functions so long as it is exposed to the respiratory currents of air. When deprived of these it may undergo all degrees of disorder from catarrh to total destruction. Cf. Erkrankungen der Nase, des Rachens, und des Kehlkopfes (Nothnagel's Pathologie und Therapie), p. 34.
[6] Mayo Collier, Mouth-breathing, p. 12.

e.g., the maxillary sinus—the ostium is situated on a higher level than the floor. Drainage is then even more difficult.

Another circle is frequently established in purulent sinusitis owing to the destruction of the ciliated epithelium. The aggregate effect of myriads of cilia in removing the secretions, especially when they have to act in opposition to gravity, must be of great importance. Acute inflammation, however, and especially the retention of pus, rapidly destroy ciliated epithelium, and thus neutralise Nature's scavenging provisions. Retention leads to further retention.

Polypus.—According to some authors the growth of a nasal polypus is complicated by the presence of a circle, as Heymann points out: "The polypus irritates the adjacent structures, and thus excites, as well as maintains, a condition of inflammation. In saying this we are adopting the view that a polypus may owe its origin to a condition of inflammation, so that a form of Circulus Vitiosus is established. ..... In many, probably most, cases suppuration has started and led to the formation of the polypus; at the same time the irritation of the polypus may cause or at least keep up the suppuration. It is scarcely necessary to add that the continual bathing of the mucosa in pus may in turn give rise to fresh polypi."[7] Stoerk[8] takes much the same view.

The growth of a nasal polypus, when once formed, has been attributed by some writers to the effect of gravitation, to the kinking of the blood-vessels,[9] to the traction caused by blowing the nose, and to the to-and-from movement due to respiration. It seems at any rate possible, as Watson Williams suggests,[10] that these factors may accelerate growth, and the larger the growth the more effectual will these factors be.

Epistaxis.—A. Cartaz draws attention to a circle met with in cases of recurrent epistaxis associated with excoriations of the septum. "I refer," he says, "to those attacks of recurring epistaxis which originate from the anterior portion of the septum and which are frequently due to the bad habit of scratching the nose with the finger. The nail leads to excoriations of the mucosa, and to small ulcers which in course of time are covered by scabs. The itching and the desire to get rid of the scabs causes the sufferer to blow his nose vigorously, or to detach the scabs with his finger. The consequence is a return of the hæmorrhage; or else the hæmorrhage recurs from some other trivial cause ..... and unless care is taken a vicious circle forms which may lead to more serious consequences."[11]

Rhinolith.—The development of the various forms of calculi occurring in the body is dependent on reciprocal reactions between the primary nucleus and the subjacent mucosa, and the same principle applies to the rhinoliths occasionally met with. The nucleus, whether consisting of a foreign body, of blood, or of mucus, becomes encrusted with calcareous matter derived from the nasal secretions, and becomes in turn a source of irritation to the mucosa.

Rhinitis.—Some attacks of nasal catarrh, even after recovery, greatly diminish the resistance of the nasal mucosa and so interfere with the vaso-motor mechanism. As a result an increased liability to catarrh is developed and each attack leaves the nose more predisposed, a *locus minoris resistentiæ*. Especially is the circle a troublesome one, if there is constitutional debility. A similar condition is associated with the various nasal neuroses, and depends on the principle that a reflex disturbance once produced is more easily renewed. Every attack appears to diminish the control of the nerve centres and to induce an attack on less and less provocation.

An artificial circle is sometimes created by the injudicious use of cocaine in the treatment of rhinitis. The immediate effect of this drug is to produce shrinking of the congested mucosa and thus to clear the nasal passages. The constriction of the vessels, however, is very temporary and is followed by prolonged paralysis. If relief is desired stronger and stronger applications are necessary. The cocaine becomes an *agent provocateur* of disease, and a fatally progressive habit is readily acquired.[12] Similar precautions are needed when cocaine is used in the treatment of nasal asthma and paroxysmal sneezing. "It tends to aggravate the condition, after its transient effects have passed off."[13]

[7] Handbuch der Laryngologie und Rhinologie, vol. iii., p. 824.
[8] Erkrankungen der Nase, des Rachens und des Kehlkopfes (Nothnagel's Pathologie und Therapie), p. 188.
[9] M. Hajek, Nebenhöhlen der Nase, p. 255.
[10] Diseases of the Upper Respiratory Tract, p. 326.
[11] Cartaz, Castex, and Barbier: Maladies du Nez et du Larynx, p. 34.
[12] W. Hasslauer: Ohrenheilkunde, p 141.

II. *The Throat.*

Obstruction.—Some dangerous, although fortunately infrequent, circles are associated with stenosis of the larynx and trachea. For instance, in cases of congestion of the aryteno-epiglottidean folds the two œdematous masses may be seen lying like valves above the glottis; there is then a risk that they may be sucked together during inspiration and provoke acute dyspnœa. The greater the dyspnœa, the greater the inspiratory efforts and the more closely do the œdematous folds approximate, fatal suffocation being an occasional termination. Death may also result from what is called tongue-swallowing, a rare accident in children whose frænum is too long or has been divided. The danger arises from the tongue being retracted into the pharynx during deglutition so as to hinder inspiration. The consequent dyspnœa is apt to lead to further retraction, so that the tongue eventually comes to be fixed like a wedge in the gullet, obstructing the larynx so completely that no air can reach the lungs. Several cases of fatal asphyxia are on record.

Schrötter[14] has called attention to reciprocal relations that may be set up between chronic catarrh and new growths. Sometimes a neoplasm has been sucked into the glottis so as to provoke urgent dyspnœa, followed by increased impaction and death.

Paralysis of abductors.—A dangerous circle may complicate bilateral paralysis of the abductors of the vocal cords—i.e., the posterior crico-arytenoid muscles. In normal respiration the glottis dilates with every inspiration, and the deeper the inspiration the wider the glottis. Where, however, the abductors are paralysed inspiration is no longer associated with any dilation of the glottis, but, on the contrary, with increased approximation of the cords, a condition due either to the greater atmospheric pressure above them or to a perverted innervation of the unopposed adductors. The narrowing of the glottis provokes dyspnœa and the dyspnœa leads to further narrowing, involving a risk of asphyxia.

Tuberculosis.—Some correlations are called into operation in tubercular laryngitis owing to the associated cough, vomiting, and painful deglutition. In consequence of the irritable condition of the larynx the cough may be incessant and rob the sufferer of the sleep and laryngeal rest which are so essential if the progress of the disease is to be checked. The cough may also be accompanied by such frequent vomiting that an insufficient amount of food is retained. The resulting malnutrition diminishes the power of resistance and aggravates the mischief. Again, when the epiglottis is invaded by tubercular deposits there is often agonising pain on deglutition, and the suffering and dysphagia may cause the refusal of all food, however appetising. An infective circle may also be present in tuberculosis owing to the larynx and the lungs being reciprocally involved. Similar infections may occur between the lungs and the mouth, throat, or nose.

Laryngitis.—In some attacks of laryngitis the congestion and erosion set up severe paroxysms of coughing. The inflamed surfaces are brought into violent contact, and this in turn aggravates the mischief. The accumulation of adhesive secretions is another source of irritation, which is accentuated by the constant efforts of the sufferer to clear the throat. Further, the secretions interfere with the repair of a diseased mucosa or of an ulcer, a reciprocation of action being maintained in all these ways. Again, in cases of exaggerated reflex irritability of the nervous system excessive cough may so irritate and exhaust the medullary centre as to pervert the reflex mechanism. The cough becomes uncontrollable and persists even though all local irritation has subsided. Chronic laryngitis presents an illustration of that form of circle in which primary disease leaves behind it a diminished resistance to fresh attack, a liability to recrudescence on the slightest exposure. There is no permanent *restitutio ad integrum*, and each attack ends in an increase of mischief.

Neuroses.—Exaggerated self-consciousness and stammering are frequently correlated. Many persons stammer but slightly when perfectly at ease. But mental perturbation at

[13] Allbutt and Rolleston: System of Medicine, vol. iv. (ii.), p. 63.
[14] L. Schrötter: Vorlesungen über die Krankheiten des Kehlkopfes, p. 66.

once aggravates their disability, and this in turn intensifies their perturbation. "The stutterer stutters most when he is trying hardest to avoid stuttering." The same correlation may be observed in that other form of imperfect coördination known as infantile respiratory spasm. A neurotic circle is at times established by the globus hystericus, the sensation of a lump that rises in the throat and is attributed to pharyngeal spasm. The disorder is one that occurs in sensitive introspective persons and may be intensified by undue attention.

Tracheal stenosis.—A dangerous circle may be met with in cases of enlarged thyroid, where this gland compresses the trachea and reduces the lumen to a scabbard-shaped slit, for acute attacks of dyspnœa are liable to come on quite unexpectedly. Started, perhaps, by some casual effort, the dyspnœa calls the supplementary respiratory muscles (especially the sternohyoids and thyroids) into action. These in contracting press the hypertrophied thyroid against the trachea, further diminish the lumen, and increase the dyspnœa. Again, where tracheal stenosis is due to the pressure exerted by a goitre the increased blood pressure produced during expiration raises the pressure in the extensive plexus of veins that encircle the thyroid gland. In this way increased swelling of the goitre is brought about and the stenosis is aggravated.[15] Venous hæmorrhage into adenomatous cysts may also set up morbid correlations. The increased pressure on the trachea leads to dyspnœa, to over-filling of the right heart, and to congestion of the veins of the neck. This congestion in turn aggravates the hæmorrhage.

A circle may be met with in connexion with enlargement of the thymus and consequent thymic dyspnœa. At times "even the throwing of the head far back is sufficient to cause thymic enlargement and to set up a vicious circle that may quickly lead to suffocation."[16] Similar complications occasionally follow when, instead of the trachea being compressed from without, there is endotracheal stenosis, due to syphilis, new growth, or similar cause. The stenosis brings on dyspnœa and an increased activity of the respiratory muscles. This causes an over-filling of the right side of the heart during inspiration owing to the increased suction action. During expiration, on the other hand, the high intra-thoracic pressure exerted on the lungs hinders the entry of the blood into the lungs, the effect of which is to further increase the respiratory activity and dyspnœa.

III. *The Ear.*

Several circles occur in connexion with the external ear.

Otitis externa—For example, when through absence of cleanliness secretions are allowed to stagnate in the meatus they may set up irritation and congestion, which lead to further secretion and accumulation. Especially is this circle likely to be established if the canal is narrowed, and the tendency to retention thus increased. Pruritus associated with eczema is another condition which may give rise to reciprocal reactions. "Eczema of the meatus is always associated with very severe itching, which obliges the sufferer to scratch. The resulting abrasions perpetuate the inflammation of the epidermis and thus prevent recovery."[17] Excessive secretion of the ceruminous glands due to hyperæmia of the lining membrane may also act in a circle. Otomycosis, a less common cause of otitis externa, is sometimes met with, where inflammatory secretions supply a nidus for the nourishment and growth of the parasite, which penetrates beneath the epidermis and excites further inflammation.

The middle ear, however, owing to its greater complexity, is more liable to the establishment of circles.

Eustachian obstruction.—A common example is associated with Eustachian obstruction due to vascular engorgement. This obstruction leads to rarefaction, congestion, and exudation in the tympanum, which here as elsewhere must interfere with the normal resolution of the inflammatory process. Inflation, by correcting the rarefaction and congestion, eliminates an important factor contributing to maintain the engorgement.

Otitis media—A more serious condition arises when, as a result of Eustachian obstruction, inflammatory discharges are retained in the tympanum and undergo putrefaction. For such discharges irritate the mucous lining of the cavity and excite further discharge which intensifies the mischief. Again, where the tympanum is distended with inflammatory products which cannot escape, the exudation presses on the superficial veins and lymphatics and thus blocks the natural channels by which it should be absorbed. Such closure of the avenues of escape leads to increased accumulation and increased pressure. Moreover, suppuration in the tympanum establishes reciprocal relations by destroying the ciliated epithelium. Retention leads to retention, and completes the circle.

A similar sequence of events may involve the accessory cavities of the tympanum—viz., the antrum and the mastoid cells. Indeed, the conformation of the temporal bone, with its warm and moist cavities and the awkwardly situated efferent ducts, is such as greatly to favour the accumulation and putrefaction of inflammatory and other débris, the narrow communicating channels being readily obstructed and blocked.

Cholesteatoma.—An occasional consequence of purulent otitis media is the formation of a cholesteatoma, consisting of inspissated pus mixed with exfoliated epithelial cells. The constant friction of this mass irritates the enclosing walls and provokes a continual proliferation and desquamation of epithelial cells which in turn become adherent to the mass and so add layer to layer. The cholesteatoma thus increases very much as does a vesical or a biliary calculus, irritation leading to growth and growth to increased irritation.

Polypus.—The presence of a polypus is frequently associated with morbid correlations, as has already been alluded to in connexion with the nose: "Well-ascertained histories often teach that polypi are started by prior suppurative disease, which their presence then serves to perpetuate."[18] This quotation, although referring to the nose, is equally applicable to the ear.

Abuse of inflation.—Politzer has pointed out the artificial circle that arises from abuse of Valsalva's method of inflation, owing to the venous congestion of the ears which it produces.

Diminished resistance.—Mitchell Bruce has drawn attention to a form of circle which is associated with imperfect repair.[19] The incompleteness of recovery is shown by a disposition to relapse, by a diminished resistance to fresh disease, and with every attack the permanent lesion increases until the cumulative mischief may be very extensive. Such a circle is met with in some cases of catarrh of the middle ear.

Deafness.—A circle is occasionally met with when, owing to deafness, the degree of contraction of the tensor tympani cannot be accurately adjusted to the vibrations of sound that reach the ear. This imperfect accommodation impairs the transmission of auditory sensations and aggravates the deafness.

Neuroses.—In neuropaths a circle may be established by severe tinnitus, similar in its character to that met with where muscæ volitantes aggravate neurasthenia. Acute torment may thus be caused, and the more the mind is concentrated on the disorder the more is the sufferer harassed. Even men of strong nervous temperament have been grievously obsessed by noises in the head, and suicide has occasionally been committed under such circumstances. A somewhat similar condition arises when the severe otalgia that complicates some forms of aural disease induces hyperæsthesia and neurasthenia, especially if insomnia is superadded. Even apart from tinnitus and otalgia, any impairment of hearing power is likely to react unfavourably on neurasthenia.

An important circle is sometimes established when serious and debilitating illness has greatly lowered the resistance of the organism to pathogenic influences. During health a great variety of micro-organisms are present in the normal mucosa of the tympanum without causing any symptoms. If, however, prolonged pyrexia or other noxious influence lowers the resistance and renders the tissues more vulnerable, the pathogenic microbes may become active and virulent. Acute aural mischief is set up and further depreciates the general condition.

The Breaking of the Circle.

The advantage of recognising the presence of a vicious circle will be obvious when it is borne in mind that this complication is a self-perpetuating process which *vires acquirit*

[15] Heymann: Handbuch der Laryngologie und Rhinologie, vol. i., p. 563.
[16] Osler and Macrae: System of Medicine, vol. iv., p. 799.
[17] J. Guisez: La Pratique Oto-Rhino-Laryngologique, vol. iii., p. 83.
[18] H. Gradle: Diseases of the Nose, Pharynx, and Ear, p. 190.
[19] Principles of Treatment, p. 158.

eundo, and which prevents recovery so long as the circle continues in operation. This does not mean that recovery is impossible in the ordinary course of events. For unaided Nature can, and often does, succeed in breaking the circle, although her methods may be slow and the result only partially satisfactory. For example, the circles associated with a nasal polypus or an aural cholesteatoma, as described above, may be snapped by the expulsion of the irritation mass. A sharp epistaxis may relieve the engorged mucosa which is associated with so many correlations. Even a nasal sinusitis may be cured by Nature. But broadly speaking, the *vis medicatrix naturæ* does not often succeed in breaking the circle; her efforts need usually to be supplemented by those of art.

By evacuating a tympanic cavity that is distended with pus, by the removal of a goitre that is compressing the trachea, by inflating an obstructed Eustachian tube, the *ars medica* accomplishes *cito, tuto et jucunde* what Nature unaided could only accomplish clumsily and imperfectly if at all. Even drugs may render great service, as for instance when a single insufflation of gr. 1/20 of morphia cures a laryngeal cough that has persisted for weeks, or as when a blocked antrum of Highmore or a naso-frontal duct is cleared by a strong solution of cocaine which allows the escape of the imprisoned pus. A full dose of bromide may arrest an otalgia that was perpetuating the circle of insomnia and neurasthenia. One signal advantage derived from the recognition of a circle is that, since there are at least two factors concerned, there must be at least two points open to attack, two points at which a breach can be effected. A careful consideration will guide the practitioner as to the best strategy. In some cases the morbid process will readily yield if the *locus minoris resistentiæ* is attacked. At other times each of the reciprocally acting factors must be dealt with. Thus the study of the circle conduces to a broad insight into disease and renders treatment more scientific, more philosophical, and more successful.

Reading.

THE VITAL PHENOMENA OCCURRING UNDER ANÆSTHESIA—

NERVOUS, CIRCULATORY, RESPIRATORY, AND METABOLIC—AND THEIR RELATION TO THE SAFETY OF THE PATIENT.[1]

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IT is necessary, in setting before this society the facts and arguments involved in my subject, that I should point out the essential differences which exist in the requirements of modern surgery from those demanded a few decades ago.

Anæsthesia, or the loss of all sensation and perception of pain, was regarded as the end aimed at by the use of such drugs as chloroform, ether, and so on. This end obtained, the administration ceased; if the time required, and this seldom exceeded a few minutes, was not covered by the administration, the drug was again and again inhaled. The records of the earlier days of anæsthesia reveal that automatic and subconscious movements, protective spastic contractions of muscles over painful areas, were disregarded. The patient was relieved of pain, and for the rest it did not matter. The French surgeon Péan speaks with pleasure of his etherised patients being able to converse. The surgeon of to-day demands not only this anæsthesia, but a degree of narcosis which lessens reflex action throughout the body and controls to a profound degree the processes of life.

It is often overlooked that anæsthesia is a definite point in narcosis; a patient feels or he cannot perceive pain, there can be no light anæsthesia nor deep anæsthesia; what is termed light is not anæsthesia if pain is perceived as pain, and increase of the drug's effect beyond bare anæsthesia is deep narcosis, not deep anæsthesia. Terminological exactitude is essential to the appreciation of the points under discussion. Further, the surgery of to-day of necessity requires that the patient should remain in narcosis for a prolonged period, possibly for two or three hours, and the very nature of the operations often necessitates the gravest interference with large areas of highly organised tissues. Surgical shock at the time of operation and its aftermath, delayed recovery, may occur. The skill and courage of the modern surgeon do not fail even when the general condition of the patient before an operation is undertaken is extremely unfavourable, and so the patient starting with heavy handicaps of disease and exhaustion against him has to contend with a prolonged anæsthesia as well as with the depression consequent upon a severe trauma.

Accepting the inevitable results of surgery, we turn to consider what is involved in the process of the induction of anæsthesia, and what in that of the maintenance of a more or less profound narcosis.

The induction period is the obvious danger zone, and has, therefore, received the greatest amount of attention. Whatever drug is employed a series of changes in the normal processes of life have to be effected. Progressive abolition of the function of the nerve centres leads from excitation to unconsciousness, and may lead later to enfeeblement of respiration and ultimately to circulatory standstill. This is easily recognised, and is, therefore, common knowledge, but the causation of the changes is as yet uncertainly appreciated, while various opinions, often in conflict, have been advanced to explain the facts as presented before us.

We are, however, concerned with those processes which supervene from the point when anæsthesia is present until such time as the patient has emerged from the immediate effects of the operation as well as from those of the narcotic. These may be the direct results of what has taken place during the induction period or may be something superadded, or, indeed, conceivably they may arise *sui generis* during a period of profound narcosis.

The work of Hans Meyer, Overton, and more recently of Moore, Roaf, and others, appears to indicate that certain anæsthetics enter the tissues by forming "aggregations" with the protoplasm of tissues. We are probably justified in believing that the red corpuscles convey the anæsthetic to the cells, which in their aggregate form the tissues. The blood itself becomes influenced and shares in the general effects produced. There is definite evidence that nerve tissue, muscular tissue, and the cells of glands are profoundly sensitive to at least some of the narcotics. The effects produced vary according to the amount and concentration of the anæsthetic introduced into the blood stream, but further, tissues possess individual susceptibility. Thus a certain concentration will excite function, while a further concentration will lead to diminution or even to abeyance of function. As to individual susceptibility, the muscular fibres of the myocardium are readily affected by quantities of a narcotic, or more accurately, a degree of concentration of a narcotic, which will produce little or no apparent effect upon voluntary muscular fibre, while the nervous tissue reveals itself as being one of the most responsive of structures to this influence. Nerve tissues, again, appear to react differently according to their degree of organisation. We also know that although the various anæsthetics induce kindred effects, apparently by similar paths, yet they reveal individual differences in their reaction towards individual tissues. A further point of great importance is that the blood, together with the other tissues of the body, is capable of taking, or may we say aggregating, more of the anæsthetic than will produce mere diminution of function.

If we are justified in putting together the results of a large number of isolated researches, we have presented to us a connected picture of what happens when an anæsthetic is given in a certain high concentration for a brief time, or for a prolonged period at a lower but uniform concentration. At first some variation of function of all the tissues occurring in a definite order progressively from the most to the least sensitive tissues; then diminution of function in the like order; and later loss of power to functionate in those tissues most easily affected, followed by a similar result throughout the organism until the processes of life cease to be performed. Ultimately there occurs tissue death. This then represents what is always tending to take place during deep narcosis while all the vital functions are undergoing progressive depreciation. We exclude catastrophic annihilation, since this when due to the anæsthetic arises as a result of overdosage, either absolute or relative, and usually during the period of induction.

It is clear, however, that the effect of an anæsthetic by

[1] A paper read before the Medical Society of London on April 22nd.

lowering the vitality of tissues or lessening the capacity for work, more especially of those which are not component parts of those systems which have been happily termed the tripod of life, may lead to such profound interference with function as eventually to destroy life, and it may be at some considerable time after the gross effects of the drug have been dissipated. On the other hand, experiments have shown that the physical aggregation between an anæsthetic and the protoplasm of a living cell is reversible. When the tension of the anæsthetic is higher in the stream which environs the cell it becomes aggregated to the protoplasm of the cell, while, when the internal tension exceeds the external, then the protoplasm at once parts with the excess of the anæsthetic which becomes eliminated.

The questions are thus forced upon us, does this effect produced on the tissue, if prolonged beyond a certain point, merely lower the vitality of the protoplasm or result in any condition other than mere abeyance of biochemical processes? How far do diseased conditions of the organism affect the reaction of the protoplasm of the living cell towards the invading material, the anæsthetic? Unfortunately there is very little available information upon these points which can be accepted as conclusive. Theories, unless based upon reliable experimental research, are of slight value, and the researches, such as they are, lack in one essential condition—they do not sufficiently differentiate between conditions which are the outcome of quantities of an anæsthetic which induce anæsthesia, and of those which are toxic rather than therapeutic.

Thus McWilliam, whose work is of great value, speaks of percentages of chloroform of 4 to 4·5 per cent. as being within the limits of routine anæsthesia, and describes the results of such concentrations, although ever since the time of Snow (1858) toxic effects have been recognised as occurring whenever the strength of vapour of chloroform exceeds 2 in the 100.

Inhalation of ether has been shown by Offergeld to produce definite changes in the epithelium of the lungs, but that this is not a necessary result is amply shown both by experiment and by clinical experience. The blood is affected by all known anæsthetics, and the changes produced become of grave import when patients are suffering from blood diseases, themselves associated with poorness of hæmoglobin and abnormal proportion of the blood cells. Da Costa pointed out, as indeed did Harley, although the latter relied upon experiments *in vitro*, that hæmolysis may arise after inhaling chloroform or ether. Intravenous ether infusion causes hæmatinuria when a certain strength is employed.

Some years ago I investigated the question of hæmolysis following inhalation, attempting to eliminate the effects of hæmorrhage, starvation, operative shock, and asphyxial conditions, and found that judged by blood count it was impossible within a limited number of cases to arrive at any definite conclusion. The proportion of coloured cells was frequently diminished, but not uniformly so. One found that a series of cases in which oxygen was freely used gave normal blood counts, while immediately afterwards another series gave an abnormal count. Nor were the environing conditions different so far as one could ascertain. It is doubtless true, and experiment reveals and supports the fact, that anæsthetics when allowed to exert toxic influences react destructively upon the blood. The evidence is not conclusive, but it appears probable that the activity of the blood cells, like that of the cells of the tissues, suffers diminution.

Although Tissot asserted that the hæmeglobin of the corpuscles could aggregate oxygen so long as systemic life persisted, his statement seems in the light of later research to be open to modification. It must appear, then, that degrees of narcosis in which the blood becomes burdened more and more by an anæsthetic may, when prolonged, cause damage to the blood and so interfere with the vitality of the tissues. Graham[2] indeed asserts that in the case of rabbits—probably also, he contends, in that of man—ether when inhaled lessens phagocytosis as regards the pneumococcus, the streptococcus, and the staphylococcus. It is his view that the phagocytes are themselves damaged, while no serum change takes place, and he hazards the theory that the solvency of ether as regards fatty material explains this action. At the same time, he admits that bacteriolysis and agglutination are unaffected by ether.

[2] Journal of Infectious Diseases, March 6th, 1911.

The experimental work which has been done upon nerve and muscle is too well known to need more than formulating in the following statements. Nerve tissue at first reveals variations in its reaction to stimulation, later loses its excitability. Nerve centre cells have been shown to undergo structural modification.

Muscular tissue, according to the strength of the anæsthetic perfusing its vessels, loses its contractility, and in the case of the myocardium may pass into paralytic dilatation. Marked effects have been produced experimentally and observed on post-mortem examination, in the case of glandular structures, and especially in that of the kidneys and liver. We are probably safe in believing that most of the secretions are materially affected in narcosis, and as function is changed so also is the structure of the epithelium modified, often in a deleterious sense. What we do not at present know is within what limits these effects may be produced without permanent injury accruing to the tissues affected.

Paul Bert found that prolonged inhalation of very weak chloroform vapour, too dilute to induce anæsthesia in the case of dogs, resulted in death, and he explained this fact by the theory that the anæsthetic killed by profoundly affecting the metabolism of the animal. Taken by itself Bert's view may not carry conviction, but the researches of Thiem, Fischer, Ungar, Strassburg, and many since their time, have given it much corroboration, since they demonstrate that repeated inhalation of the anæsthetic leads to death, and that the death results from fatty changes in the liver and other organs such as we accept to be due to perversion of metabolism.

Destruction of the epithelial cells of the kidneys and derangement of the renal function have been again and again advanced as proof of the danger of anæsthetics. In a research undertaken (1890) by me with the assistance of Dr. Levy it was stated: "The fact is, there is little evidence tending to show that ether exerts directly any deleterious influence on the kidney parenchyma. The albumin found in the urine of the dogs which had undergone experiments, we believe, is not to be explained in this way, but by the indirect action of the anæsthetic, in that it produces, when pushed to an excessive dose, an ischæmia of the kidney, that is, the specific ether effect."

But the problem we are considering is not circumscribed by a mere inquiry into the direct or indirect effect of the anæsthetic upon individual tissues, or, indeed, upon the organs; if it were so, we could obtain the data for its solution by experiments of a comparatively simple character. In dealing with the intact organism we cannot disregard that intimate effects arise which are produced by interference with the physiological form of respiration, of circulation, and, above all, by the interference with the physiological control by the nervous system. Unhappily, when we anæsthetise our patient we are not able to switch off nerve reaction.

Without attaching too much importance to Dr. Crile's picturesque way of explaining his views upon surgical shock, I may avail myself of his forceful description. Shock, then, means the result upon the nervous centres of a bombardment of sensory impulses which, even although they are not stereotyped into a perception of pain, yet produce that effect which means nerve exhaustion. That anæsthetics may, and probably do, produce some nerve blocking is not open for me to discuss at present; I am only concerned in asking you to remember that under a surgical operation the patient's life has to be maintained in spite of the direct effects of anæsthetics upon the cells of the organism, and in spite of an abnormal controlling central nervous system.

It may be urged that I have proved too much or too little. Either that no surgeon ought to undertake a serious operation when the patient is under a general anæsthetic, or that the experiences of countless successful operations so performed prove the futility of the contention I have ventured to advance—namely, that during narcosis tissue life is subject to peculiar dangers, such as must be reckoned with in counting the cost to life.

It was the fond hope of the pioneers of such modern methods as local infusion of analgesics, spinal analgesia, and regional analgesia that with the employment of such methods had come the surgical millennium. Unhappily, the pæan had hardly been sung when the fact was forced upon us that man, under the waking exercise of his nervous system, suffers shock even more perilous in some cases than that induced by dragging upon and cutting the tissues of an

unconscious patient. That psychic shock exists we cannot afford to doubt. We know a brave man will fall in a dead faint when an aural speculum is used, and death has followed the prick of a hypodermic needle. I cannot, however, elaborate this portion of the subject.

That surgical operations under general anæsthesia can be carried out safely, although phagocytosis is abolished and tissues are bathed in a narcotic fluid and the central nerve control is abnormal, is quite true. It is so because the dangers to which I have referred have been averted, not because they are visionary. This fact constitutes the capital contention of my essay.

There is sufficient evidence, I submit, that tissue changes, probably of a deleterious nature, can and do occur during narcosis, the cause being the sum of the effects produced by the anæsthetic, together with the trauma, or insult to tissue; that, further, derangements of the nerve-control mechanisms affecting metabolism, trophic conditions, respiration, circulation, and excretion coincidently occur, and these again arise through the summation of the effects of trauma and the anæsthetic. These changes vary within very wide limits—at times are very slight and so escape observation, at times severe, calling for grave attention and remedial measures.

In many cases a further factor exists—the condition of the patient. If he is free from some pathological lesion his vitality may be depressed by such conditions as prolonged fasting, exposure or antecedent trauma, as in the case of railway smashes and in that of women with flooding at the menopause. Otherwise the patient may be crippled by serious organic disease. The existence of one of these factors makes for increased damage during a prolonged narcosis.

Now the dominating fact brought out by the study of the anæsthetic's share in producing prejudicial results is that all anæsthetics act progressively and proportionately to their strength in solution. That they possess individual peculiarities is patent, so that while one may exhaust by depression, another may do so by prolonged over-stimulation; one may ultimately destroy by poisoning protoplasm, while another may only destroy by wearing down the resistance of the exhausted nerve controls. But these by-issues must be left for later analysis. The reason, then, why serious damage is not evident in all cases is shown by one of two facts. Either the individual patient may be able to expel an excess of the narcotic, or else measures may be adopted on the one hand to prevent increasing the effects on the tissues of the anæsthetic, and on the other to prevent undue depression of tissue by trauma. But to adopt such measures it is obvious we must realise the necessity for them, and this we can only do by recognising tissue interaction with narcotics.

It is impossible in the time at my disposal to enter into detail with regard to protective measures. From the side of surgery, it may be said that most surgeons recognise the importance of minimising damage to the nervous system caused by rough handling and exposure of viscera and peritoneal structures, and so they frequently perform operations in two stages and adopt other measures to effect this object. In all cases which are not of emergency a prolonged and careful preparation is possible. The regulation of diet should replace the starvation regimen which is so dangerous, although Dr. Gundrum's research[3] appears to discount in some degree the effect of starvation in the case of healthy animals. Avoidance of starvation is important, however, when patients are feeble.

If we review the large amount of work which has now been carried out concerning post-operative glycosuria and the germane condition of acidosis, we find that while many patients after inhaling anæsthetics develop acidosis, not a few give evidence of this condition after changes of dieting, after purgation or alteration in their environment, and without having taken an anæsthetic at all. That acidosis may be engendered by anæsthetics Whipple, Sperry, and others have shown. The central necrosis of the liver lobules is, however, a toxic effect, and it is doubtful whether it arises through the instrumentality of the anæsthetic in cases in which therapeutic quantities of a narcotic have been employed. Nor must it be forgotten that, unless respiration is failing and so elimination is at fault, it is less the gross amount of an anæsthetic which is harmful, than the concentration in which it is allowed to flood the tissues.

[3] Johns Hopkins Bulletin, June, 1909.

I will only mention without elaboration the importance of the selection of the type of anæsthetic and the method of its use, a selection controlled, first by the exigencies of the patient's condition, and secondly by the dominating claims of the surgeon. Even a judicious choice of the agent may be shown to have been unfortunate in the progress of the narcosis, and such a possibility must always be held in mind, so that a change of anæsthetic or modification of method may be made at any period. The use of some preliminary drugs, such as morphine and scopolamine, undoubtedly protects the patient in two ways—it lessens psychic disturbance and diminishes the quantity of a general anæsthetic required during the narcosis.

Assuming there are no definite signs of unusual happenings during a narcosis, beyond the obvious effects of prolonged inhibition of physiological processes and the slowly developing phenomena of shock, the inhalation if kept at the same level will deepen narcosis, and if the anæsthetic is a stimulant such as ether the initial stimulation of the nervous system will give place to an ever-increasing exhaustion. If the anæsthetic is a depressant, such as chloroform, its maintenance at the same level of strength will gradually replace depression of function by profound exhaustion. Ever so slight a failure of respiration leads to lessened pulmonary ventilation, and this to diminished oxidation, until with falling blood pressure and imperfect oxidation of the blood the tissues throughout the organism become enfeebled, if not rendered moribund

This vicious circle easily escapes observation until duskiness and lessened hæmorrhage enforce attention. But beyond what has been indicated we have to reckon with the increased toxicity of the anæsthetic if it is permitted to be inhaled by a patient who has passed into this degree of narcosis. The output of the anæsthetic is lessened, and its tension in the tissues becomes steadily increased. To obviate such a condition—and its occurrence is far more common than you may believe—it is requisite to obtain that degree of narcosis which the surgeon needs, and for so long as it is needed, and then to lessen the strength or concentration of the anæsthetic until the output equals the intake or slightly exceeds it. The experienced anæsthetist can gauge this with accuracy. As the shock increases, the need for the anæsthetic lessens. Since we recognise that shock means loss of temperature, falling blood pressure, and lessened oxidation, we adopt the classic remedies, warming the table, depressing the head, and supplying warmed oxygen to counteract these effects. Dr. Willcox has found in extreme cases passing oxygen through alcohol to be of value, but I think any measures of stimulation other than those of saline infusion and the application of heat are sources of danger. I am convinced that much of the shock following operations is due to exhaustion resulting from excessive stimulation.

The key to the whole situation lies in the recognition that very little of any anæsthetic is needed to keep up any level of narcosis when the level is once established, and that so long as the tissues are not over-narcotised the cells will by their inherent vitality part with the anæsthetic, reverse the aggregation, and so regain their normal physiological state.

Even in artificially produced acidosis the cells of the hepatic lobules which have undergone necrosis have been shown to recuperate, but this can only occur when the general vitality of the organism has not been excessively depressed. Indeed, this has been shown experimentally to be true of other, mainly epithelial, tissues; so that there is every presumption in favour of the belief that when a narcosis is maintained without excessive interaction between the narcotising agent and the tissues of the body, such tissues even if temporarily damaged will rapidly recover, provided their requirements—e.g., adequate blood-supply and so on—are safeguarded and physiological conditions are promptly reinstated.

Mortimer-street, W.

THE CROWNHILL CONVALESCENT HOME, NEAR PLYMOUTH.—The twenty-ninth annual meeting of the friends of the Crownhill Convalescent Home was held on May 3rd. The medical report stated that during 1911 the patients admitted numbered 319, and by far the larger number of these derived great benefit from the "clear and bracing air of Dartmoor." The financial statement showed that an unfavourable balance of £62 remained at the close of the year.

REPORT ON AN ENQUIRY INTO THE PREVALENCE OF SYPHILIS IN THE SOUTH AFRICAN NATIVE,

AND ITS INFLUENCE IN AIDING THE SPREAD OF TUBERCULOSIS.

BY BENJAMIN GEORGE BROCK, L.R.C.P. & S. EDIN., D.P.H. EDIN.

OVER 20 years ago, while in charge of a native dispensary in Basutoland, I observed that a very considerable number of natives had a non-tuberculous fibroid condition of the apices of one or both lungs, that the majority of these had also indurated enlargement of the epitrochlear gland, and usually had a history of former syphilis. Subsequent experience confirmed the close association of these conditions and taught me to regard the fibroid condition as an interstitial fibrosis of syphilitic origin. Tuberculosis in any form was practically unknown in the natives of the district at that time.

Recently the opportunity has arisen of testing the correctness of this opinion. In view of the importance of the subject I determined to make what might be accepted as a trustworthy estimate of the extent to which a fibroid condition of the lung exists in the native, the extent to which some other condition exists which might be an indication of a syphilitic taint, and the relation of these conditions to phthisis as it is met with here in the native. In the selection of a symptom of former syphilis it was necessary to choose one either not usually met with in other conditions, or if any other conditions might produce it, easily distinguishable from that of different causation. In presence of the facts that natives in this country show a great tolerance of syphilis, and that in their case all visible signs of the disease disappear in a very short time, it was necessary that the sign should be a fairly permanent one, as well as a strong indication of the disease. There is only one readily available symptom, so far as I am aware, that meets all these exacting requirements satisfactorily, namely, an epitrochlear lymphatic gland with indurated enlargement, painless, and freely moveable. This, therefore, was chosen as the indicator.

The "sample" on which observations were to be made required to be sufficiently large to afford reasonable stability of the percentages present of any condition on which conclusions were to be based; and, to ensure the sample being a fair one, it required to be made up of consecutive individuals till it was complete. The sample was taken in this manner and made sufficiently large to make the results applicable to the native population as a whole—bearing in mind that the sample is probably of rather a better type than the native population in general, and that it is composed entirely of males.

For the purpose set forth 7660 consecutive natives were examined with the following results:—

TABLE I.

Number examined.	Percentage with fibrosis of the lung.	Percentage with indurated enlargement of the epitrochlear glands.	Percentage of cases with gland enlargement, together with cases of fibrosis which had not enlarged glands.
7660	35·6	68·5	78·5

To prove the stability of the figures these were taken out roughly for each 1500 examined as follows:—

1506	32·8	63·8	72·7
3130	30·0	66·5	74·6
4478	31·0	67·9	76·3
5984	34·3	67·8	77·5
7660	35·6	68·5	78·5

These results were considered sufficiently stable for all practical purposes, the difference between the highest and lowest being but 5 per cent.

After 545 cases had been examined it was thought that the value of the work would be increased by extending the scope of the inquiry by referring each individual to his respective tribe, so as to obtain some information as to the tribal distribution of the conditions under observation. The remainder of the sample was therefore dealt with in this manner. The result is given in Table II.

TABLE II.

	Tribe.							
	Xosa.	Pondo.	Zulu.	Fingo.	Transvaal Basuto.	Basutoland Basuto.	Matabele and Shangaan.	Other tribes.
Number of each tribe examined	2078	1492	1142	422	601	700	290	390
Percentage with fibrosis	36·3	31·6	37·5	38·1	35·2	40·4	30·3	33·0
Percentage with indurated enlarged gland ...	67·7	71·3	68·5	67·7	71·0	66·4	73·4	63·0
Percentage with enlarged gland, combined with number of cases with fibroid lung which had not indurated enlargement of gland	78·7	78·9	78·6	78·6	81·6	76·7	78·9	78·3

The figures in this table were not taken out until after the sample was complete.

The third item in these tables is arrived at in the following way. The number of cases with pulmonary fibrosis but not having indurated enlargement of the gland (those with indurated gland being already included under that head) is added to the number of cases having indurated enlargement of the epitrochlear gland, the sum of these being taken out as a percentage of the whole number examined.

The figures show that over one-third have a fibroid condition of the lung, two-thirds have indurated enlargement of the epitrochlear gland, and nearly 80 per cent. of all cases examined have one or more of these conditions present. I do not know of any cause other than syphilis capable of explaining the presence of these conditions in the natives examined.

It would thus appear that the extent to which syphilitic contamination exists in a detectable form is nearly 80 per cent. of all natives examined. The table of tribes shows this contamination to be equally prevalent in all the tribes coming under observation, and compels the conclusion that this condition is common to the native population of South Africa, and that syphilis in the native south of the Zambesi dates back many generations or even centuries.

Conclusions.

1. 35 per cent. of natives have a fibroid condition of the lungs.

2. 68 per cent. have indurated enlargement of the epitrochlear gland.

3. Both conditions result from syphilis, and nearly 80 per cent. of natives have one or both conditions present.

4. Syphilis prepares the way for tuberculosis, and is, in all probability, the *chief* cause for the great prevalence of, and high mortality from, the latter disease in the natives engaged in mine work on the Rand.

5. Syphilis plays a rôle in the production of lung disease in the youth and adult, the great importance of which has not been recognised.

Remarks.

There can be no doubt that the native has been in contact with European and Asiatic peoples from a very remote period. In Herodotus's time there was some knowledge that a mountain range existed near the sources of the Nile, and that south of it there dwelt pygmies; and Hipparchus (100 B.C.) represented the Nile as rising from three lakes, clearly indicating that there was considerable intercourse, by the Nile route, between Egypt and these distant regions at that remote date. Mr. W. Hammon Tooke, in his interesting articles on the "Bantu in the Tenth Century,"

which appeared in the *African Monthly* for December, 1906, and following numbers, showed that trade between Egypt and the East Coast dates back for at least as long a period and "that large fleets traded between the Red Sea and India and the extremities of Ethiopia" in the time of Strabo (first century). At this time the trade between the Levant and the Far East was carried on by the caravan routes by "the Romans, Abyssinians, Russians, and Bokhariots." In the early centuries of our era this trade fell into the hands of Arab seamen, who before the seventh century had established "markets in Ceylon with trading colonies thickly planted along the Malabar coast, in Canton, and concentrated at Kalah in the Malay Peninsula." Their trading stations extended as far south on the African Coast as Cape Corrientes. Thus for many centuries wide trade intercourse has existed between the natives of Africa and the peoples of Arabia, Egypt, Europe, India, Ceylon, and China.

Syphilis is a disease of very considerable antiquity. Hill and Cooper state that in China it has been known for at least 2000 years, and probably as early as the time of Ho-Ang-Ti (2637 B.C.). The earliest mention of the disease in Indian literature is said to be in the "Ayurvedas" of Sucrutas (fourth century), where its nature is clearly mentioned. In Europe it seems probable that the disease was known early. Hippocrates, Celsus, Aretaeus, and Galen all mention diseases which were probably syphilis, but none attribute to them a venereal origin. This omission was, however, made good by the "poems of Martial, Juvenal, and the Priapeia," which "furnish abundant allusion to, and even descriptions of, venereal diseases, not only of the genitals, but of the mouth, face, and groins. These constitutional diseases are also mentioned as being communicated by kissing, as well as by sexual intercourse."

Enough has been said, without following its history into more recent times, to establish the fact that from a very remote period the native population of Africa has been in intimate intercommunication with races all of whom were familiar with, and suffered from, syphilis. Under the circumstances, all the probabilities favour the view that the natives acquired the infection in these early days, and that it has become a "folk disease" in them. The figures in the report show the present condition of the native of South Africa in regard to syphilis and strongly support this view.

Livingstone, in his "Missionary Travels and Researches in South Africa" (London, 1857), at p. 113 says:—

> A certain loathsome disease which decimates the North American Indians, and threatened extirpation to the South Sea Islanders, dies out in the interior of Africa, without the aid of medicine, and the Bangwaketse, who brought it from the West Coast, lost it when they came into their own land south-west of Kolobeng. It seems incapable of permanency in any form in persons of pure African blood anywhere in the centre of the country. In persons of mixed blood it is otherwise; and the virulence of the secondary symptoms seemed to be in all cases that came under my care in exact proportion to the greater or less amount of European blood in the patient. Among the Corannas and Griquas of mixed blood it produces the same ravages as in Europe. Among the half-blood Portuguese it is equally frightful in its inroads on the system; but in the pure negro of the central part it is quite incapable of permanence. Among the Barotse I found a disease called Manassahs which closely resembles that of the *foeda multer* of history.

He states that tubercle is non-existent.

[The author also quotes Sir John Kirk, H.B.M. Consul at Zanzibar; Dr. Kerr Cross, a medical missionary for ten years in North Nyasaland; and Dr. A. Balfour in evidence of the prevalence of syphilis in various regions. He proceeds:]

Morocco is in a like condition. It may, I think, be accepted that the native peoples of Africa have a high rate of syphilitic infection. Livingstone was, so far as I know, the first to draw attention to the power of the native to throw off the disease on going inland, and clearly attributes this to a "race immunity" and not to climate, as is clearly shown by the other cases he mentions. A similar belief obtained in regard to the natives of the West Coast and malaria. No doubt both are to be explained in very much the same way, the natives having become "acclimatised" in childhood. C. Levaditi, reviewing recent work on immunity, says:—

> The immunity to syphilis differs from the immunity conferred by other diseases, which is associated with the disappearance of the virus from the tissues. Not so in syphilis, in which (the patient), although immune from syphilitic virus from without, retains the virulent spirochæta pallida in such tissues as the lymphatic glands and bone marrow from which it may escape and cause a relapse.

[The author cites the researches of recent workers—of Breinl, Balfour, and Leishman—showing the giving off of "granules" by spirochætæ, which must be considered as a stage in their life-cycle and as being very resistant and responsible for latent infectivity. He continues:

Clinical indications, therefore, still remain the best and surest guide in estimating the probable extent to which a syphilitic infection exists in a population of the type dealt with in the report, where the disease for all practical purposes must be considered as wholly untreated. To the latter fact, in very large measure, is no doubt to be attributed the presence and persistence of the symptoms chosen as indicators of a syphilitic taint.

I have been familiar for over 20 years with the close association in the native of the conditions—a non-tubercular fibrosis of the lung (apices), an indurated, enlarged, painless, freely moveable epitrochlear gland, and a clear history of syphilis—and I suggest that the reliance placed on their presence and the deductions drawn therefrom are warranted. It must, however, be frankly stated that while the importance of the evil influence and frequent presence of the interstitial form of syphilitic fibrosis of the lung (white hepatisation) in ante-natal and immediate post-natal life, as also the localised or gummatous form in the adult, are fully described and recognised in the literature of the subject, the condition of lung referred to in the report is hardly mentioned in any text-books or monograph on either syphilis or tuberculosis that I have been able to refer to.

[In support of this statement the author quotes paragraphs from Hill and Cooper's "Syphilis and Local Contagious Diseases," second edition, pp. 184, 187; Woodhead's "Practical Pathology," second edition, p. 283; Green's "Pathology," ninth edition, p. 467; and Douglas Powell and Hartley's "Diseases of the Lungs" (1911), Chapter XXIV. He continues:]

It is thus clear that the condition, interstitial pulmonary fibrosis of syphilitic origin, is, even by the leading authorities at the present moment, not recognised as existing in fact. It is necessary, therefore, to give some indication of what the condition is and the physical signs of its presence. It is a condition affecting the apices of one or both lungs characterised (as described by me elsewhere on Feb. 2nd last) by "marked prolongation of expiration, without at any time having 'wavy' breathing, 'creaking' sounds or râles moist or dry, and usually no dulness in percussion over the affected parts, (the native) otherwise being to all appearance in excellent health; the condition suggesting a slight fibrosis, which had not originated from irritation of the air passages and did not suggest the presence of tubercle. Moreover, the natives were resident in Basutoland." It is important to keep in mind, as stated in the report, that at the time this condition was recognised (1888–89) tuberculosis was almost unknown there, the very few cases seen having acquired the disease at one educational institution in Cape Colony, and also that of all cases seen during these years at the dispensary 61 per cent. were in syphilitics. As the condition advances, dulness and other signs of a fibroid condition appear. The right apex is usually the one first affected.

The former non-recognition of this condition as a result of former syphilis may be explained in two ways. (*a*) The condition may not develop in cases receiving efficient treatment (as the majority of cases do in Europe), or does so in comparatively few cases. Proper treatment almost certainly results in reducing the prevalence of affected glands. (*b*) The condition may be ascribed to tubercular disease. The two conditions are so similar that the slight differences in their physical signs are not likely to be noticed where the examination is always for tubercle and rarely for syphilis. The seat of election is the same for both, although one seems to favour the right and the other is generally believed to favour the left apex. How possible such an oversight might be is perhaps more easily appreciated if the incidence-rate for tuberculosis in European cities is remembered. Hamburger and Monti give the rate for Vienna as 94 per cent. at 16 years of age for the poorer population. That the spread of tuberculosis in recent years has so far not been sufficiently wide to impair the reliability of the percentage estimate of syphilitic fibrosis is clearly shown by the figures in the table giving tribal distribution, where it is shown that the percentage of fibrosis for those most removed from the liability

to tubercular infection is almost identical with those from tribes most exposed to it.

There seems no alternative to accepting the first three conclusions of the report as correct, and that the position is that 30 per cent. of South African native labourers presenting on the Rand have a syphilitic taint, and in over 35 per cent. one or both lungs are in a damaged condition (interstitial syphilitic fibrosis), a condition favouring attack by both tubercle and pneumonia.

That the organisms of both these diseases are present and ready to take advantage of any condition that reduces the resisting powers of the tissues sufficiently to permit of their invasion need not be doubted.

[The author quotes observations of Fraenkel with reference to the ubiquity and resisting power of B. tuberculosis, and of Fraenkel, Weichselbaum, Foa and Bordoni-Uffreduzzi, and Netter with reference to the pneumococcus. He continues:]

These facts offer a ready and reasonable explanation of the proneness of the native to contract these diseases. It is a long-recognised clinical fact that tuberculosis occurring in a syphilitic tends to run a rapid and unfavourable course. Of the organisms of tuberculosis and pneumonia it may indeed be said that "while always present they only become pathogenic when the native power of resistance is weakened. The particular change required is unknown. The better the medium agrees with them the more rapidly they develop and the greater their virulence becomes." Of the excellence of the medium and the virulence of the disease the death-rates provide proof, and strongly support the fourth conclusion of this report. That the fifth conclusion is correct it is almost unnecessary to insist.

As a possible agent in the *production* of pulmonary phthisis, syphilis does not appear to be generally, if at all, recognised; witness the fact that in the Transactions of the National Association for the Prevention of Consumption and other Forms of Tuberculosis for 1911 it is not even mentioned. The probability of the importance of this syphilitic lung as a cause of phthisis in natives working on the Rand is greatly increased when the usually accepted cause is subjected to examination.

The term "miner's phthisis" has been so long associated in the mind with the inhalation of dust of an irritating or otherwise harmful nature as its cause, that dust, by common consent, has long been given the "place of honour" as a cause of the disease. So much so has this been the case that according to the type of dust supposed to have caused it the names "coal-miner's phthisis," "stone-cutter's phthisis," "knife-grinder's phthisis," &c., grew up, and last to be added to the list is "gold-miner's phthisis." It is therefore of importance to inquire whether dust, as such, has any good claim to the place it holds as a causative agent of this disease, and if it has, what may be the reasonable limit of this claim?

Comparing the death-rate from phthisis, including miner's phthisis, in the male population of the Transvaal over 20 years of age with that of miners for the years 1905–07 these seem to be as 1 to 6,[1] while those for Western Australia, where the mines are of a similar type,[2] appear to be, compared with the whole male population over 15 years of age, as 1 to 2, a difference that cannot be explained by the absence of dust, and it does not appear that it can be due to the quality of the dust (*vide infra*). There would seem to be some special influence at work in this country in producing such unfavourable mortality rates from phthisis as compared with those of Australia. The figures for the Transvaal, too, are considerably lower than the actual rate on account of so many going to their homes in other provinces to die. Further, Dr. Cumston estimates that in Western Australia the disease shortened a man's life by three and a half years. "Gold-miner's phthisis" of the Transvaal accomplishes his death in from five to six years. It is estimated that after commencement of symptoms the average life is 15 years for steel-grinders. Can these great differences be accounted for by the "qualities" of the various dusts?

In regard to steel-grinders Dr. Barnes (Sheffield) holds that the disease met with in them is tuberculosis, and he believes that dust, although no doubt preparing the lung as a good nidus, is not to be considered of much account. He states that this is also the view held by most medical men who have to deal with the cases.

[1] Transvaal Mining Commissioners' Report, p. 36.

[2] Dr. Cumston's report, abstract in Brit. Med. Jour., Jan. 7th, 1911, p. 39.

Quartz dust (the dust of Australian mines is of this type) examined under the microscope with a moderately high power (× 400) presents an appearance that may be compared in miniature to a mixture of old nails, staples, tacks, broken needles, and here and there a fish-bone, an appearance that might excuse the belief that it would play havoc with the lung; yet life is reduced but three and a half years under its baneful influence.

Dust of the Witwatersrand mines examined under the same power presents (as might be expected from its history) a field of smooth, rounded, waterworn particles, to all appearance quite innocuous, yet it is credited with killing in from five to six years. Is it conceivable, then, that dust, as such, can be the essential factor in compassing such a result?

One thing must be conceded in regard to both these dusts—viz., that they provide an excellent material for drying and converting into fine powder any tuberculous sputum they may come into contact with, and thus be a means of aiding the bacilli to enter the lung with the dust-laden air. The dust of the Rand, on account of its non-irritating type, might be particularly efficient in this rôle. Even admitting this to the full, it amounts to little, and its influence in the production of the "miner's phthisis" in the native, as known on the Rand, must at most be a speculative one of little or no value.

The importance of the already syphilis-injured lung as a reasonable explanation of the cause of the great prevalence of, and high mortality from, both tuberculosis and pneumonia is greatly enhanced by these facts. The type of the former disease, too, strongly favours this view, removes it from the list of merely probable causes, and places it in the first rank as a determining cause of pulmonary tuberculosis in the native.

The conclusions of the report, therefore, appear to reveal conditions which affect not only the native races but the future welfare of South Africa in general. Indeed, their importance and far-reaching consequences must surely be evident to every thinking mind and cannot easily be exaggerated.

Germiston, Union of South Africa.

LITERARY INTELLIGENCE.—Messrs. J. and A. Churchill announce for publication Vol. VI. of the new edition of "Allen's Commercial Organic Analysis," which has been re-written under the editorship of Messrs. W. A. Davis and S. S. Sadtler. The subjects and authors are as follows:—Amines and Ammonium Bases, by W. A. Davis; Aniline and its Allies, by S. S. Sadtler; Naphthylamines, Pyridine, Quinoline, and Acridine Bases, by W. H. Glover; Vegetable Alkaloids, by T. A. Henry; Volatile Bases of Vegetable Origin, Opium Alkaloids, by F. O. Taylor; Nicotine and Tobacco, by R. W. Tonkin; Aconite Alkaloids, Atropine and its Allies, by F. H. Carr; Cocaine, by S. P. Sadtler; Strychnos Alkaloids, by C. E. Vanderkleed; Cinchona Alkaloids, by O. Chick; Berberine and its Associates, by E. Horton; Caffeine, Tea, and Coffee, by J. J. Fox and P. J. Sageman; Cocoa and Chocolate, by R. Whymper.—Messrs. Frowde, and Hodder and Stoughton are about to issue a one-volume Encyclopædia of Medicine and Surgery at the price of 25*s*. The volume, which will consist of about 1000 pages, is under the general editorship of Mr. J. K. Murphy.

HEALTH CONFERENCE AND EXHIBITION AT BRISTOL.—A conference and exhibition in connexion with nursing and health will be held in the Victoria Rooms, Clifton, Bristol, from June 6th to 12th next. With the object of giving to nurses a practical insight into the latest methods of treatment the committee has invoked the coöperation of the medical charities of Bristol and the surrounding counties, and nurses visiting the exhibition will have the privilege of inspecting between certain hours the Bristol institutions. The Nurses' Social Union will display home-made contrivances which have been found useful in cottage nursing. Dr. D. S. Davies, the medical officer of health of Bristol, is the President of the congress, and he will be supported by the Lord Mayor and the Lady Mayoress of Bristol, the Duke and Duchess of Beaufort, the Bishop of Bristol, the Marquis of Lansdowne, Viscount Haldane, and others. Communications respecting this congress should be addressed to the secretaries at 7, Unity-street, Bristol.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

ŒSOPHAGOTOMY FOR IMPACTED TOOTH-PLATE.

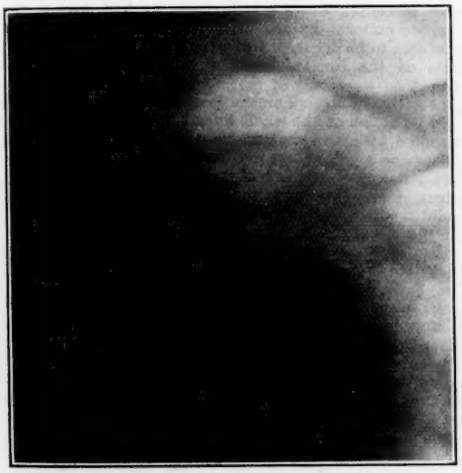
BY REGINALD F. JOWERS, F.R.C.S. ENG.,
SENIOR SURGEON TO THE ROYAL SUSSEX COUNTY HOSPITAL, BRIGHTON.

A MAN, aged 32 years, was admitted to the Royal Sussex County Hospital, Brighton, on March 14th last, having swallowed a vulcanite tooth-plate carrying two incisor teeth and a wire hook at one end. The plate measured 1½ in. by 1 in., and was shaped as shown in Fig. 1. On admission to the hospital he complained of pain at the junction of the manubrium sterni with the gladiolus. A bougie passed gently came into contact with the plate 9 in. from the teeth. Attempts by the house surgeon to extract the plate with œsophageal forceps were unavailing. A skiagram (see Fig. 2) showed the plate opposite the first intercostal space to the left of the sternum.

FIG. 1.

On March 18th I made a 4-inch incision along the anterior border of the left sterno-mastoid. The œsophagus was exposed and identified by passing a bougie. A 1-inch incision was made posteriorly and the finger introduced, with the tip of which the plate could just be touched. With curved œsophageal forceps the plate was grasped, but gentle manipulation failed to move it. Attempts to seize and crush

FIG. 2.



Skiagram showing position of tooth-plate.

it with a small lithotrite and with strong straight forceps failed, owing to the impossibility of bringing them into the line of the œsophagus. Finally, a firm grip was taken with the œsophageal forceps and a steady pull exerted until the plate was brought into the reach of the finger and eased out. One tooth was broken off in the manipulation. The wound in the œsophagus was not sutured. The upper part of the skin incision was closed by a few silkworm gut sutures and a drainage-tube inserted.

For the first two days the patient had saline rectal injections every six hours, after which he was given nasal feeds of milk. The wound discharged saliva and suppurated. On March 26th he was given bread-and-milk, when hardly any escape from the wound occurred. By the 28th there was no escape when taking food. On the 31st he was given chicken and other light diet.

On April 3rd the patient left the hospital with the wound nearly healed, and he was able to swallow without difficulty.

Hove.

MULTILOCULAR OR ALVEOLAR HYDATID IN THE LEFT BROAD LIGAMENT COMPLICATED BY PREGNANCY.

BY JAMES OLIVER, M.D. EDIN., F.R.S.E.

HYDATID tumours originating in the female pelvis are rarely seen and the multilocular variety is extremely rarely encountered anywhere.

The patient in the present case was 37 years of age, and had been married 11 years. She had had only one child, who was born two years ago. She came under my care on March 15th, 1911, and had been last "unwell" on Dec. 18th, 1910. For 14 years she had complained occasionally of pain in the left iliac region, and this had been worse since the birth of the child. She had remarked for several years that the left half of the lower abdomen appeared to be more prominent than the right, but that the abdomen generally had rapidly increased in size since the cessation of the last menstrual discharge.

Physical signs.—The abdomen below the level of the umbilicus was prominent, more especially in the left half. It was occupied by two uniformly globular swellings—a right and a left—which were in apposition with each other. The summit of the right was felt four inches above the right Poupart's ligament, whilst the summit of the left was on a level with the umbilicus. The right swelling was soft and appeared to contain fluid; the left was very firm. The breasts were not in appearance characteristic of pregnancy and colostrum was not obtainable from them.

Vaginal examination.—The cervix, which was somewhat soft, was located high and near to the right pelvic wall. The vaginal roof anteriorly on the right side was slightly depressed by a portion of the right abdominal swelling, which was the enlarged and three months gravid uterus. The vaginal roof to the left of the cervix was markedly depressed by a portion of the left abdominal swelling, and this was hard. The patient was now examined on her left side, and it was observed that this alteration caused the cervix to move away from the right pelvic wall and the vaginal roof on the right side to be drawn up.

The diagnosis, founded upon the physical signs and clinical history, was broad ligament cyst, with three months' utero-gestation.

Operation.—The abdomen was opened in the middle line. The tumour, which was composed of minute hydatids, varying in size from a pea to a very small hazel nut, possessed no characteristic cyst wall, and had to be scooped out of the broad ligament piece-meal. It was well supplied with blood, and several vessels had to be tied close to the left side of the uterus. The left half of the uterus was extensively bared, and as the peritoneum of the left broad ligament tore most readily during the scooping-out process a covering of peritoneum was with the greatest difficulty procured for the uterus. The cysts separately appeared to be embedded in a soft fibrous tissue matrix. On the twelfth day after the operation a hæmorrhagic vaginal discharge was observed, and on the following day abortion took place, but otherwise convalescence was uninterrupted.

Gordon-square, W.C.

THE CHEMISTS' EXHIBITION.—The Chemists' Exhibition, which shows an increasing popularity each succeeding year, was opened on May 6th at the Holland Park Skating Rink, Holland Park-avenue, London, W. The number of exhibits was larger than usual, and the accommodation of the hall gave the exhibitors ample opportunity to make their stalls imposing and attractive. The opportunity was not lost, and the result was a very interesting collection of drugs, pharmaceutical preparations, special foods, and surgical and medical appliances subscribed by well-known firms. There were also working exhibits illustrating the actual manufacture of pharmaceutical goods, and competitions were held in window dressing. The exhibition is evidently appreciated, since this recent one represents the eighteenth of the series.

Medical Societies.

HUNTERIAN SOCIETY.

Adjourned Discussion on the Therapeutic Value of Alcohol.

A MEETING of this society was held on April 24th, Dr. R HINGSTON FOX the President, being in the chair.

After the PRESIDENT had briefly summarised the chief points raised in the previous discussion on March 27th.[1]

Sir LAUDER BRUNTON submitted that alcohol was like the contents of the ink-bottle—an excellent thing only so long as it was in the right place. Parkes, in the Ashanti campaign, had found that, although alcohol might apparently act as a stimulant for the first mile or two, it always reduced the total day's march. At the end of a fatiguing day, however, the older men found a ration of rum a great help to their digestion. Alcohol aided digestion by setting up in the mouth a reflex stimulation of the various digestive juices; but, in addition to this, it accelerated absorption in the stomach and probably in the intestines as well. This latter action probably accounted for the marvellous results that were obtained by giving a few drops of brandy to an infant with severe diarrhœa. He knew a doctor who had completely cured himself of a previously intractable diarrhœa by taking a small glass of liqueur with his meals. Alcohol relieved spasm, both in the intestines and elsewhere, and was thus of great value in attacks of ague, where the vessels were in a state of spasm. Fainting fits might be prevented by a small dose of alcohol, but he did not believe that the drug was of much service in chronic heart cases except as a digestive. There had certainly been a great decline in the use of alcohol in fevers in recent years, partly because the severe forms were becoming increasingly rare. He thought it was of most value in the shorter febrile diseases, such as typhus, where it helped digestion and retarded tissue change, thus tiding the patient over a crisis. Thus it was often serviceable in pneumonia, where, indeed, it might to a great extent take the place of food for two or three days. Broadly speaking, however, alcohol was not much good as a food alone; its value rather was as a stimulant to the gastric and other juices and as an aid to digestion.

Dr. W. H. B. STODDART alluded to Sir Victor Horsley's diagrams showing the enormous decrease in the amount of alcohol consumed in institutions during recent years. He submitted that they exaggerated the change of opinion in the profession, because whereas alcohol was now used entirely as a medicine, it used to be employed as a beverage as well. Sir Victor Horsley had spoken of the action of a 0·4 per cent. solution of alcohol on the isolated heart. He (Dr. Stoddart) had calculated that he would have to drink two and a half ounces of whisky to raise his blood to a 0·4 per cent. alcoholic solution, and he ventured to think this was a pretty stiff therapeutic dose. Alcohol was of use in asylum practice as an appetiser, and occasionally as a hypnotic, where other drugs had failed. In some conditions of extreme collapse in certain forms of alcoholism, such as delirium tremens or alcoholic pseudo-paresis, it undoubtedly saved life. Apart from asylum practice, he believed that there were many people in poor health upon whom a morning glass of port had a magical effect for the rest of the day. He had a friend who suffered from headaches due to high blood pressure and who had been greatly relieved by a dose of brandy, which acted, he supposed, by lowering the blood pressure. If this were so, he would venture to throw out the suggestion that the drug might be of use in cerebral hæmorrhage, in spite of the present view that it was contra-indicated on account of its supposed stimulant effect.

Dr. E. W. GOODALL said that there was more than one cause for the decrease in the alcohol consumed in the Metropolitan Asylums Board hospitals in recent years. It was no longer used as a beverage for the staff or convalescent patients; but more important than that, there was a vast difference in the class of cases treated. Typhoid and typhus were comparatively rarely seen now, and scarlet fever had become such a mild disease that neither alcohol nor any other drug was often needed in its treatment. In his experience the action of alcohol as a stimulant was disappointing. He very seldom gave it in typhoid. In children with measles, complicated by abdominal pains and looseness of the bowels, he had found very small doses of brandy give relief. Stimulants, he believed, were of little, if any, value in the acute stage of diphtheria, but possibly alcohol might be useful as a transient stimulant in the syncopal attacks occasionally met with during the stage of paralysis. On the whole, there was now a consensus of opinion against the use of alcohol, except to a limited extent, in the acute specific fevers.

Dr. LANGDON BROWN believed with former speakers that alcohol had a definite value in digestion. The reflex effect of alcohol on the mouth had already been dealt with, but he ventured to lay additional stress on its chemical effect in the stomach. Alcoholic solutions were readily absorbed in the stomach where watery solutions would scarcely be absorbed at all. Now Edkins had pointed out that products of digestion, when absorbed directly, stimulated the pyloric glands, which, in turn, stimulated the glands in the fundus to further secretion. Both in increasing absorption and provoking the further flow of various juices, therefore, alcohol was a valuable chemical aid to digestion. It had been said that alcohol was inferior to sugar as a foodstuff for the heart. But sugar could not be administered in cases of diabetes. The onset of acidosis in diabetes was due to the splitting up of fats in the absence of carbohydrates. He believed that alcohol could to a limited extent replace the carbohydrates, and he employed the drug in diabetes to prevent or diminish acidosis.

Dr. A. S. CURRIE observed that Sir Victor Horsley's diagram which showed the great decrease in the alcohol used at asylums also showed an enormous increase in the insane during the same period. He questioned whether, in the change of attitude of the profession towards alcohol, the pendulum was not swinging too much in the other direction. He had over and over again obtained good results from the use of alcohol in therapeutics. He had seen it strengthen the flagging heart in diphtheria, he had seen it bring patients back from the sighing, gasping semi-consciousness of torpid states to consciousness and comfort, he had seen it revive collapsed patients drained of blood in placenta prævia, and he refused to be debarred from its use in future. The experiments on the isolated heart of the rabbit that had been referred to were only of partial value. They took no count of the action of alcohol on the controlling nerve centres, and it was its action on the whole human organism that they were concerned with, and that action was, he believed, the action of a spur on a jaded horse rousing to sudden, not to sustained, effort. Before prescribing alcohol they must first know their patient thoroughly and then only give it in carefully regulated doses. But physicians must not be frightened from the use of the drug by the sight of a hob-nailed liver in a bottle of spirits or of a blear-eyed reprobate in an attack of delirium tremens.

Dr. F. M. SANDWITH had understood Sir Victor Horsley to say that no patient was really any the better for taking alcohol, but that he only thought he was better. He preferred to believe that his own powers of digestion and absorption were really improved by a small dose. Nothing would induce him to state that he would never prescribe alcohol under any consideration. He would be sorry, for instance, to take up the care of babies if he were not permitted to give brandy occasionally. At the same time he recognised that other drugs were taking the place of alcohol in many ways, and he would very warmly commend to the meeting the use of camphor, injected in a sterilised oil, as a stimulant. The fact was that the advocates of alcohol had changed their platform and now prescribed the drug as a digestive or a narcotic, and no longer as a stimulant and never as a tonic.

Dr. MARY D. STURGE was afraid that nurses were very prone to administer more alcohol than was ordered to patients, unless the doctor had been particularly exact in his dosage.

Sir VICTOR HORSLEY, in reply, deplored the fact that accurate clinical observations on the action of alcohol in disease had not been brought forward. He would like to have seen blood pressure, cardiographic and other exact records laid before them. He feared that in point of fact the work had not been done, and really there were scarcely any clinical data of any value in existence supporting the therapeutic use of alcohol. He wished that more details had been given about Mr. Cursham Corner's patients who had

[1] THE LANCET, April 20th, 1912, p. 1058.

improved with alcohol. In cases of "tight breathing," for instance, any narcotic might bring relief to the patient, and alcohol was probably of benefit solely as a narcotic. Sir Lauder Brunton had raised some important points in discussing the effects of alcohol on the digestive organs. There was a further side to this question—namely, the known inhibitory effect of the drug on the action of digestion ferments; this had not been alluded to. He (Sir Victor Horsley) would suggest that there were other substances quite as efficacious as alcohol in aiding digestion, both reflexly and directly. He had been particularly interested in Sir Lauder Brunton's observation that alcohol was of much less value in the longer as distinct from the shorter fevers. The distinction well illustrated his own point, that alcohol was not now used as a sparer of metabolism. He agreed with Dr. Stoddart that a great deal of the diminution in the consumption of alcohol in institutions was due to its disappearance as a beverage, but he thought that its use as a beverage might fairly claim to come within the therapeutic horizon. He had been interested in Dr. Stoddart's calculations as to the size of the drink that would correspond to a 0·4 per cent. solution of alcohol acting on the heart, but he could not agree that the 2½ ounces of whisky would be regarded as a big dose, either therapeutically or popularly. It was less than many so-called moderate drinkers took in a day. He would venture to extend the same criticism to Dr. Currie's remarks as he had done to those of Mr. Cursham Corner. Personal experience was not a sufficient basis; they needed scientific data to support it. In conclusion, he thanked the society for the honour of opening a discussion which had shown clearly what a useless and treacherous drug alcohol was.

EDINBURGH MEDICO-CHIRURGICAL SOCIETY.

Exhibition of Patients.—Acute Myelocythæmia Associated with Osteosclerosis.—The Interpretation of Radiographs.

A MEETING of this society was held on May 1st, Mr. J. M. COTTERILL, the President, being in the chair.

Professor FREDERICK C. SHATTUCK, M.D., LL.D. Harvard, was elected a corresponding member of the society.

Mr. DAVID WALLACE showed a patient after Partial Œsophagectomy. The woman was 60 years of age, and had suffered for four months before admission from pain and progressively increasing dysphagia. When first seen in March, 1912, an irregular "pasty wall cancer" area was observed at the upper end of the œsophagus opposite the cricoid. There was immobility of the left arytenoid muscle, but no involvement of the larynx and no glandular enlargement. The œsophageal bougie could not be passed. On April 5th, through an incision along the anterior edge of the sterno-mastoid muscle, a piece of œsophagus 1½ in. in length was removed along with the tumour, which proved to be a squamous epithelioma. The patient was now quite well.

Mr. CHARLES W. CATHCART exhibited a male patient after Removal of a Gall-stone which had acted as a ball-valve at the neck of the gall-bladder. The symptoms had commenced three weeks before admission with severe pain in the right side, constant in nature, and with severe and frequent spasms shooting to the back. A moveable swelling was present at the level of the umbilicus. No jaundice had occurred. At the operation a large barrel-shaped stone was found lying at the neck of the gall-bladder and grasped by the wall. It had allowed bile to enter the gall-bladder, but had hindered its exit. Owing to prolapse of the liver the gall-bladder lay near the umbilicus.

The PRESIDENT showed a female patient, aged 33, in whom the upper three-fourths of the Right Radius had been Removed for Sarcoma on Jan. 12th, amputation having been refused. After recovery the patient had a very useful hand, quite capable of full flexion. The tumour proved to be a small round-celled sarcoma (not myeloid). Recurrence of the growth had taken place in the region of the neck of the scapula which would necessitate removal of the entire upper extremity. The remarkably rapid growth was noteworthy. He had tried Coley's fluid in some 15 cases but found no benefit except in one case, where a male patient was admitted in a cyanosed and moribund condition due to a large mediastinal growth which pushed forward the sternum. Three or four weeks after injection he was able to walk about and lived in comparative comfort for a year.—Mr. CATHCART said he had employed Coley's fluid in six cases, and in only one with good result. This was a malignant adenoma of sebaceous origin which recurred after removal but healed after injection.—Mr. WALLACE had employed Coley's fluid in three cases of periosteal sarcoma. The tumours were removed in two cases by amputation, and in the third by excision and the fluid was injected; all were now well after several years' interval.

Dr. H. TORRANCE THOMSON demonstrated a Mask for Administering Chloroform or Ether by open or semi-open method with an adjustable dropper.

Dr. ALEXANDER GOODALL read a paper on Acute Myelocythæmia associated with Osteosclerosis and other Unusual Features in a female infant 10 weeks old. Jaundice, followed by hæmorrhages, chiefly from the nose, began when the child was seven weeks old. There were no signs of rickets or syphilis. There were numerous petechial spots and constant oozing of blood from little excoriations on the buttocks. The liver and spleen were enlarged. No enlargement of lymphatic glands. Red corpuscles numbered 1,100,000, and leucocytes 75,000 per cubic millimetre. Hæmoglobin was 22 per cent. There was great diversity in the size and shape of the red corpuscles. Megaloblasts and normoblasts were numerous. A differential count of leucocytes was as follows: Polymorphonuclear neutrophiles, 26; large lymphocytes, 14·5; small lymphocytes, 9·75; eosinophiles, 1·5; neutrophile myelocytes, 46; eosinophile myelocytes, 2; and basophiles, 0·25. The neutrophile granules were not shown in a great many cases in films stained by Jenner's and Wright's methods. It was not till films were prepared with Ehrlich's triple stain that the true nature of the case became evident. A post-mortem examination revealed remarkable thickening of the bony trabeculæ throughout the body. The marrow was contained in small compartments, so that it could hardly be expressed. No definite medullary cavity existed in any of the bones examined. The marrow was dark in colour and typical of myelocythæmia. This case was probably only the nineteenth recorded authentic instance of myelocythæmia in infancy and the twentieth case of myelocythæmia occurring in an acute form at any age. The association of leucocythæmia with osteosclerosis had been previously recorded on only two occasions. The demonstration of the myelocyte granules was discussed. Although both varieties of leukæmia were now regarded as affections of the bone marrow in the great majority of cases, it was important to distinguish between the lymphatic and the granular form, not merely as a matter of hæmatological interest, but because the myelocyte form responded much better than the lymphocyte form to exposure to X rays.—Dr. J. S. FOWLER and Dr. W. T. RITCHIE discussed the paper, and Dr. GOODALL replied.

Mr. ARCHIBALD MCKENDRICK read a paper on Insufficient Data as a Cause of Faulty Interpretation of Radiographs. He said that unfortunately the modern tendency towards extreme specialisation was accompanied by an increasing dissociation and lack of communication between those engaged in the various branches which, when taken together, went to make up the whole domain of medicine and surgery. They were at a critical point in the history of radiography, and it must soon be settled what the true position of the radiographer really was in relation to diagnosis. Was he to be merely an expert X ray photographer whose duty was at an end after he had furnished the physician or surgeon with the finished negative? Or must he be at once an anatomist, a pathologist, and a radiographer, capable of assisting his colleagues in diagnosis? Let the surgeon or physician and the radiographer mutually furnish sufficient anatomical, pathological, and mathematical data, and the fault would disappear. Radiography would then become an absolutely reliable diagnostic acquisition. During the past six months Mr. McKendrick and his colleague, Dr. Hope Fowler, had taken over 3000 X ray photographs, and had thus had ample opportunity of forming an opinion on the deficiency of existing methods. The diagnosis of many of the plates was impossible on account of the insufficiency of data supplied by the surgeon, and on account also of the inefficiency of the record of radiographic technique made at the time of taking the photograph. The surgeon knew what he wanted, but did not, as a rule, know how his object might be attained radiographically.

The radiographer could help him in this if the surgeon would confer with him, and the following points would help in their mutual work. A skiagraph was subservient to many factors. First: With regard to the tissues to be radiographed. X rays penetrate different substances approximately in inverse ratio to their specific gravity. The higher the specific gravity, the greater the opacity to X rays. The harder the X ray tube, the more penetrating are the rays given off from it. From these two facts it would be seen that if the surgeon desired, for example, a skiagraph of a joint, it would be to his advantage to advise the radiographer whether he suspected synovial or bone mischief, for then only would the radiographer be able to select a tube suitable for the case. A soft tube was required for showing structures of such low specific gravity as serum (sp. gr. 1035) or blood (sp. gr. 1055), whereas a harder tube was required to show the structure of bone. Secondly: With regard to the position of the limb. Taking the hip-joint, for example, the degree and direction of rotation of the femur when the radiograph was taken modified to an astonishing degree the apparent anatomical relations of the parts. The neck looked long and thin if the limb was in slight internal rotation. The neck might appear thick and short in extreme rotation in either direction according to the selected focus point of the tube. If the thigh was flexed the radiographic appearance might be that of coxa valga. The epiphyseal lines about every joint were very misleading in the various positions. Thirdly: With regard to the position of the X ray tube. The absence of data regarding this was perhaps the commonest cause of faulty interpretation of medical and surgical radiographs. Normal stomachs were diagnosed as dilated or displaced, bones as dislocated, and fractures as in malposition when the focus point was inappropriately chosen or not recorded. This should not be, for so-called distortion was mathematical, and could be easily calculated, provided they had sufficient data regarding the focus point of the tube. Such data could be supplied by the radiographer. If the relative position of the focus point and the plate were known, and the distance of the organ or structure from the plate was also known, the actual measurement of the organ would be easily accomplished. By a collaboration of surgeon and radiographer most of the present pitfalls would thus be obviated. With regard to the selection of the X ray tube in a special case, let the surgeon advise the radiographer as to the probable diagnosis, and the radiographer would select an X ray tube suitable to show the tissue or structure required. With regard to the best position of the limb and the selection of the focus point, one could not at present lay down any golden rule, because up to now there had been insufficient collaboration. The question was not yet decided, but before long they might have established a series of "normal positions" and "normal focus points" to be adopted in every ordinary radiograph. It would then be possible to compare various radiographs, for, after all, diagnosis was based on a comparison with the average. In any case, the surgeon should be supplied with the following data—viz., (1) the position of the limb; and (2) the relative position of focus point and plate at the time of examination. Mr. McKendrick had adopted the practice of recording the focus point and its distance from the plate, and also the position of the limb during the examination.—Dr. HARRY RAINY, Dr. RITCHIE, Mr. HAROLD J. STILES, Mr. WALLACE, and Mr. J. W. STRUTHERS took part in the discussion, and Mr. MCKENDRICK replied.

LEEDS AND WEST RIDING MEDICO-CHIRURGICAL SOCIETY.—A clinical meeting of this society was held on April 26th, Mr. H. Littlewood, the President, being in the chair.—Dr. Alexander Sharp showed: 1. A case of Paralysis of the Internal Tensors of the Vocal Cords in a male aged 47, who had had several attacks of huskiness of voice during the last few years. The condition would begin and disappear suddenly. The present attack began a few weeks ago. The patient spoke with difficulty. The vocal cords were congested and relaxed, and on attempting phonation an elliptical space was left between their margins. If the thyroid cartilage was pulled forward the huskiness disappeared and the cords approximated. 2. A case of Suspended Nasal Breathing in a female aged 22. She complained of inability to breathe through the nose, inability to swallow solids, and occasional loss of voice; this began four years ago, following an influenzal cold. She feels her throat "swollen up," and is afraid to sleep for fear of suffocating; says she sometimes spits blood; her speech varies. The anterior nares were collaterally narrowed; naso-pharynx clear. A probe dressed with cotton wool could be easily passed on both sides. If mouth breathing was prevented the patient got distressed and the face became congested, and in spite of anxious efforts she was unable either to inhale or to exhale through the nose. The loss of voice was of a functional nature.—Dr. A. L. Whitehead showed a case of Synchysis Scintillans (cholesterine crystals in the vitreous).—Dr. C. Oldfield showed a patient, aged 23, who had Hip Disease in infancy, resulting in ankylosis in position of flexion and adduction. There was failure of development of the right side of the pelvis, producing oblique pelvis, with marked contraction. She was a primipara; labour, about full term, commenced March 26th. Membranes ruptured March 26th; strong pain until March 28th. 9 A.M., Cæsarean section; head fixed in low uterine segment by "contraction ring"; division of this allowed extraction of the child, who was living. Both mother and child were doing well. Measurements—Outlet: Interspinous, 9 in.; intercristal, 10 in.; external conjugate, 5½ in.; diagonal conjugate, 3½ in.; conjugate, 3 in.; transverse, 2 in.—Mr. H. Littlewood showed the following: 1. A case of Actinomycosis of the Neck treated by two injections of salvarsan. The ray fungus was demonstrated and the Wassermann reaction was positive; this had now disappeared. There was no evidence of syphilis. 2. A case of Gumma of the Face producing salivary fistula in a man.—Mr. T. H. Hunt showed a case of Fractured Spine in a man aged 20, in whom laminectomy had been successfully performed. Fall, July 13th, 1909. Total paraplegia; anæsthesia to umbilicus; retention; pressure sore on heel. July 17th: Laminæ of eighth and ninth dorsal vertebræ removed; distinct return of sensation and movement in feet seven days later. Incontinence of urine and fæces. Gradual improvement of all symptoms. March, 1910: Sat up in chair. May, 1911: Attempted to stand. July, 1911: Walked with crutches. April, 1912: Walked without aid, as a rule, and had control of urine and fæces.—Mr. H. Collinson showed a female, aged 18, in whom Excision of the Third Part of the Duodenum had been performed. In September, 1911, during removal of a large retroperitoneal growth, it was found necessary to excise the third part of the duodenum; end-to-end anastomosis being impossible, the proximal end was closed and a posterior gastro-enterostomy performed. The whole of the bile secreted now passed back through the pylorus into the stomach. The patient, with reasonable care in diet, had had no vomiting and no digestive discomfort.—Dr. A. G. Barrs showed an unusual case of Hyperplasia of the Long and Cranial Bones in a man. The patient showed marked osteo-periostitis of the long bones, and increase in length of the bones of the forearm and leg. There was fusion of the radius and ulna above the wrist on each side and a bilateral congenital dislocation of the radius at the elbow-joint. The patient had had the deformity "as long as he can remember." He was somewhat feeble-minded. The character of the thickening of the bones was not in accordance with that of rickets, nor did the disease conform to the requirements of a case of osteitis deformans. Despite the fact that the Wassermann reaction was negative, the character of the bossing of the head and the mental state rather suggested that the condition was due to congenital syphilis.—Dr. W. H. Maxwell Telling showed a case of Atypical Lead Palsy in a man aged 35. He had had three attacks of lead colic, but gastro-intestinal symptoms were not marked. The onset of palsy occurred about four months ago, with aching pains in the upper arms. Loss of power followed in a few days. Now there was marked wasting in the biceps, triceps, infraspinati, and deltoids. The small muscles of the hands were not affected. The blue line was present.—Dr. T. Wardrop Griffith showed a man with Paralysis of the Left Vocal Cord, Left Half of Palate, and Left Side of Face. The onset was subacute about two months ago. He had headache during one day, then went to bed as usual, but felt pain in front of the left ear and a tingling sensation in the face, arm, and leg. For a few seconds there were some slight "twitchings" of the left side of the face. In the morning the above condition was found to be present and had continued until the present time. The patient's family history showed a tuberculous taint, and there was a lesion at the right apex. There

was no specific history and no optic neuritis.—Dr. T. Churton showed a man, aged 51, who had had Angina Pectoris four years and had taken erythrol tetra-nitrate gr. ½ every six hours for the last 15 months with great benefit.—Cases were also shown by Dr. R. A. Veale, Mr. S. W. Daw, Dr. G. W. Watson, Mr. J. F. Dobson, Dr. A. Bronner, Mr. H. Secker Walker, Mr. E. W. Bain, Mr. Michael A. Teale, and Mr. L. A. Rowden.

NORTHERN AND MIDLAND DIVISION OF THE MEDICO-PSYCHOLOGICAL ASSOCIATION.—A meeting of this division was held at the Garlands Asylum, Carlisle, on April 18th.—Dr. W. F. Farquharson presided.—Dr. J. R. S. Anderson read an interesting paper on "Insomnia." He dealt with the various causes of the condition, and especially its relationship to the insane. He then considered the various drugs that were in use for producing sleep, and the methods of treatment that might be beneficial.—Dr. Farquharson, Dr. T. W. McDowall, and others discussed the paper, and a suggestion was put forward that a collective investigation on the use of sedatives in certain classes of cases might be attempted by the association.—Dr. McDowall read a paper, written jointly by himself and Dr. Colin F. McDowall, on Abnormal Development of Scalp. He first referred to a case reported by Poggi in 1884, and said that since that date a few writers, English and foreign, had published cases and ventured on various explanations. He himself had published an account of a case in 1893. He gave a short description of cases recorded by Poggi, Lombroso, Gatti, Bravetta, and others, stating that Bravetta was of opinion that the furrows described by Poggi, &c., and found in degenerates were only the continuations and exaggerations of the frontal furrows, and that they were found in some animals, as dogs, cats, lions, and monkeys. He then described in detail, illustrated by photographs, a case at present in Cheddleton Asylum. He said that two questions were naturally suggested—on what did these abnormalities depend, and what significance should be attached to them? After a description of Langer's lines, which was illustrated by several photographs, he said he was inclined to agree with the opinion of Professor Kundrat and Professor Kaposi that "the brain had not advanced in growth, but the skin was sufficient for a normal skull, and had developed independently in accordance with its own capacity for growth. But because the contents to be surrounded remained too small, the normally large skin was forced to arrange itself in folds over the small skull and in parts became atypic—i.e., hypertrophied during development." Several members joined in the discussion afterwards.—Dr. J. Parker read a paper entitled "Observations on a case of Dementia Præcox." The patient was a Jew, aged 36, admitted to Wakefield Asylum. He had a neurotic family history, and when admitted was suffering from melancholia, being impressed with the idea that there was a plot to convert him to Christianity. He improved rapidly in the asylum and was discharged "recovered" after three months. Four days later he was readmitted, excited, violent, talkative, and destructive. He gradually lapsed into a cataleptoid state, becoming deeply stuporous, and requiring feeding and catheterisation. This state gradually merged again into one of excitement, singing, dancing, &c. The particular question which this case suggested was, What significance, especially in a prognostic sense, was to be attached to the mild delusional state which the patient presented when first admitted? Mr. Parker considered the early paranoid symptoms in the case bore a close resemblance to those of acute curable paranoia, though the subsequent development was essentially different. It would thus appear that dementia præcox might first manifest itself in an atypical form by a mild delusional state, only differing from other mental disorders with a much less serious prognosis by the presence of hallucinations.

LIVERPOOL MEDICAL INSTITUTION.—A meeting of this society was held on April 25th, Dr. C. J. Macalister, Vice-President, being in the chair.—Mr. R. E. Kelly showed an Apparatus for producing Anæsthesia by the intratracheal insufflation of ether with warmed and moistened air through a catheter passed through the glottis. As the catheter was not large enough to fill the glottis air escaped in an outward current, so that no fluid could find its way into the respiratory passages. In operations on the mouth and neck the anæsthetist was not in the way of the surgeon, as life could be maintained without respiratory movements. Operations within the thorax were now possible by the use of this apparatus. Mr. Kelly had used the method in seven cases with entire success.—Mr. Keith W. Monsarrat related a case of Focal Epilepsy. The onset of the attacks were apparently connected with the subdural injection of antitetanic serum in 1904. He described the progress of the attacks, which at first were restricted, but after some years became general. He related the operative measures which had been undertaken for the relief of the condition, and commented on the use of membrane derived from hernial sacs for remedying dural defects.—Mr. Hugh E. Jones read a paper on the Operative Treatment of Aural Vertigo due to causes other than suppuration. The paper was chiefly devoted to an analysis of the causes of vertigo generally and the differential diagnosis of labyrinthine vertigo with a view to the selection of suitable cases for operation. Two cases were shown in illustration of the vestibular tests by turning and by changes of temperature (caloric tests)—one a case of complete destruction of the vestibular junction by suppuration and by subsequent vestibulotomy, and the other a case of marked hyperæsthesia following fracture of the temporal bone and not operated on. The following conclusions were arrived at. The cases not suitable for destructive operation on the labyrinth were: (1) those in which rapid and complete destruction of the vestibular function occurred; (2) functional and toxic cases (including auto-intoxications); (3) lesions of the central nervous system; (4) cases secondary to lesions of the middle ear which could be cured by treatment (operative or non-operative) of the middle ear; and (5) cases of true Ménière's disease or of Ménière's symptom-complex where the patients were old or were bad subjects for operation. The cases suitable for operation were—(1) pure labyrinthine cases in which (*a*) the recurrent attacks interfered with important duties in otherwise healthy persons notwithstanding a fair trial of ordinary treatment, (*b*) cases where falls were likely to occur in dangerous places to the risk of life and limb, and (*c*) where the symptoms were unusually incapacitating and caused constant fear and great distress of mind; (2) it was possible that the successful case described by Jenkins of simple opening of the perilymphatic space for supposed increased tension within that space might lead to the extension of the operation to cases of secondary hyperæmia; and (3) a few traumatic cases. Mr. Jones also described, with the aid of lantern slides, various methods of operating, and declared his own preference for an operation whereby the external semicircular canal was followed throughout its extent into the vestibule; by this means the vestibule and the three ampullæ could be rendered functionless without opening the tympanum, and adding to the risks of the operation those of infection from the Eustachian canal and the external auditory meatus or injury to the facial nerve. Four cases were described; all but one had been operated on by this method.

LIVERPOOL EYE AND EAR INFIRMARY.—The Lord Mayor (the Earl of Derby) presided at the annual meeting of the Liverpool Eye and Ear Infirmary on April 26th at the Town-hall. 9219 new eye cases and 3273 new ear cases had been attended to in the out-patient department during the year. In the in-patient department beds had been occupied by 1543 patients, as against 1213 in 1910. The financial position continues to be a source of serious anxiety. The heavy debit balance had been somewhat reduced, but this was solely due to the special appeal issued at the beginning of the year, which realised £950, a much smaller sum than had been hoped for. The deficit stands at £2740, and in spite of the utmost economy the expenditure was about £500 in excess of the dependable income. The Lord Mayor said the position of the hospital would be very serious unless the public supported it with greater generosity. There was no doubt of the fact that the demands made upon people in other ways—by taxation, for one—had tended to reduce the amount they were prepared to give to charitable institutions. It was impossible to say what would be the ultimate effect of the Insurance Act on the hospitals, but while hoping for the best they must be prepared for a worse era under the Act. On behalf of the subscribers the Lord Mayor presented Mr. H. H. Hornby with a silver salver in recognition of the services he had rendered on the committee of the hospital during the past 50 years.

Reviews and Notices of Books.

Tuberculin in the Diagnosis and Treatment of Tuberculosis. (Weber-Parkes Prize Essay, 1909.) With additions. By W. CAMAC WILKINSON, B.A. Syd., M.D. Lond., F.R.C.P. Lond. London: James Nisbet and Co., Limited. 1912. Pp. xxlv.–492. Price 21*s.* net.

THIS book is a new edition of the author's "Treatment of Consumption" reviewed in our columns in 1909.[1] In his discussion of the merits of tuberculin treatment Dr. Wilkinson appears to undertake to prove that "the early stage of pulmonary tuberculosis can be cured with certainty by tuberculin alone, and that tuberculin dispensaries for the poor offers the only solution of this great national problem." He has added about 250 pages to the practically unchanged bulk of his old edition.

In reviewing the former edition of this book we expressed the opinion that the author's statements were not convincing, and we cannot yet alter this opinion, for Dr. Wilkinson has added little new material which may carry conviction, although nearly four years have elapsed since the first publication. Throughout the book numerous demands are made for searching investigation of after-results obtained by other methods of treatment. Thus, Dr. Wilkinson rightly insists on the demonstration of "arrest of disease not merely for a few months or a year or two, but for at least four or five years, perhaps for many longer." According to him "the whole value (of such investigations) depends upon the methods used in arriving at correct diagnosis in the first instance and the character of the later examination." He therefore intends that the after-results of his own methods should be subjected to similar rigid scrutiny.

Of his 115 cases (first stage), treated previous to 1907, he gives after-results only in two or three cases up to 1909. Of his 75 cases (second stage), of which 56 have been treated since 1905, there are given only a few reports later than 1909, and about one-third up to 1909. Of his 40 cases (second and third stages) we find no report later than 1909, and only 12 reports up to 1909. Of his 18 cases (third stage) he reports only on cases up to 1908. Of his cases reported on, we receive in 1912 information of their condition after 1909 in only a very few instances. The author repeats the identical table given in 1908 showing the percentage results in fully treated cases, which vary from 0 to 100 per cent. (100 and 50 per cent. in most of the stages).

Realising fully that all statistical information about a disease so variable in its manifestation must always be taken with the greatest caution, and admitting that often a careful observation of isolated cases offers most valuable information, we cannot pass unchallenged the author's statistics when such statements as "100 per cent. *as far as is known*" are made. The author cannot expect scientific approval of his figures when vague statements like "Quite well," "Looks well," "Having gained weight," "Passed patient in the street," "Looks far better," are taken to imply arrest of the disease. His percentages of success are not easy to follow. To take one example: "First stage cases treated in 1903: Results in 1908: 14 cases: 1 died of abdominal operation, 2 were well in 1906, 11 remaining alive and well—i.e., percentage results after five years, 100 per cent." Furthermore, second stage cases of 1903: "3 cases: 1 fully treated, quite well; 1 partially treated, lost sight of; 1 gave up treatment after a few doses, died in 1904—ergo, percentage result after five years, 100 per cent. of cases fully treated." Such records are said to "bear out the conclusions that in Stage 1 tuberculin secures a successful result in almost 100 per cent. of the cases, certainly in 90 per cent. of the cases, controlled by after examination even five years after treatment." Nearly 50 pages of temperature charts are given to show that "excellent results can be obtained by large doses, and by increasing the doses even in spite of reactions." This is an interesting contribution to the literature of tuberculin, but it is to be regretted that the charts are not more legible.

In a "record of post-mortem examination" Dr. Wilkinson relates the history of a strange and exceedingly chronic case. Anyone who has occupied himself for years with tuberculosis has encountered such examples, of which Robert Louis Stevenson has furnished the classical prototype in his pathetic experience through 15 painful and yet so useful years. The author's patient since 1898 had wandered over distant parts of the world until in November, 1904, specific treatment was begun. In January, 1909, he succumbed to a sudden accident—"air escaped into the mediastinal tissues and pressed on the heart causing death." The author remarks on the very extensive fibrous changes throughout the lungs, with no caseous foci and only an isolated colony of tubercle bacill, all of which illustrates to him "the effects produced in the diseased lungs by large doses of tuberculin." Any pathologist of experience could produce to him identical records of cases never treated by any "system" whatsoever. The dosage and temperature records of this case (1904–1908) merit a closer study in the charts given.

As a practical trustworthy guide to specific treatment the author considers the opsonic index of no value, and prefers Arneth's system of blood examination. He gives his tabulated blood counts, but does not explain his method of staining and counting. The new part on "technique" repeats very largely what has already been said elsewhere in the chapter on specific treatment, taken from the 1908 edition. He discusses the various tuberculins and their respective advantages as they seem to him, gives some indications about the dosage, dismisses the "unnecessary burden of determining the opsonic index," and, on the basis of recent experiments made in Berlin, condemns the administration of tuberculin by the mouth. "Sanatorium methods" are strictly banished from his scheme.

The dialectic and controversial side of the book fills by far the greater number of its pages. The author has not lived up to his own demand, given in his introductory "Apologia," for investigations carried out in accordance with the strictest canons of logic, as he has not brought his records up to date. We have cited these shortcomings, not because we take sides in an issue of tuberculin *versus* sanatoriums, for to us no conflict exists, but because we feel that there may be practitioners with no time to study the records who may be influenced by the author's persuasive and eloquent language, and see nothing but good in tuberculin and nothing but harm in sanatoriums. All acquainted with the problems of tuberculosis and with the immense amount of painstaking work done in this country, as elsewhere, to cope with it, cannot help regretting the author's extreme point of view as expressed on almost every page of the book. Independently of his efforts tuberculin has been used for years in ambulatory practice. Since most of the work in Great Britain meets with his disapproval we may well expect continental experience to support Dr. Wilkinson. Attention should be given therefore to the consideration of the subject at the Naturforscher Versammlung of 1904 in Breslau, at the International Tuberculosis Conference of 1909 in Stockholm, at the Congress of Internal Medicine in the same year, and at the Congress of the Tuberculosis Physicians in 1910, where the results of ambulatory tuberculin treatment were extensively discussed. We have

[1] THE LANCET, March 13th, 1909, p. 768.

only to look up the work of Holdheim, also, who reports his experiences with a treatment begun in 1902, as well as that of such men as Goetach (since 1892), Penzoldt, Stintzing, Neisser, and Roepke, not to mention the extensive work done with tuberculin in sanatoriums.

The employment of tuberculin, as Dr. Wilkinson himself emphasises, "needs time, patience, and some experience in methods of administration," but he does not help his own work by decrying all other measures. Koch himself strongly urged the caution that tuberculin was valuable in *specially selected cases*. In condemnation of the sanatorium Dr. Wilkinson forgets that it was also his master, Koch, who showed that England's success in its struggle with tuberculosis is due to the care provided for the tuberculous poor in institutions. These latter have now gradually evolved into sanatoriums, where not "graduated exercise" as a diversion, but useful, purposeful work is undertaken by patients under skilled medical supervision. This scheme, contrary to the author's assertion, has nothing in common with Brehmer's (who certainly was anticipated in this country by Bodington). It was initiated here by Paterson on original and practical lines. Tuberculosis cannot be eradicated by sanatoriums, or by dispensaries, or by tuberculin, or by any single measure. It demands a mobilisation of all forces, medical and social.

The book recommends itself to any lover of controversial literature. It reads easily and is entertaining. The practitioner desirous of learning the technique and method of tuberculin administration will receive little assistance, although many of the forceful and interesting clinical comments may prove inspiring.

A Manual of Midwifery. By G. BALFOUR MARSHALL, M.D., C.M. Edin., F.R.F.P.S. Glasg., Senior Gynæcologist, Royal Infirmary, Glasgow; Extra-Academical Lecturer on Midwifery and Gynæcology, Glasgow. With 9 coloured plates and 125 illustrations in the text. Glasgow: James Maclehose and Sons. 1912. Pp. 401. Price 14*s.* net.

Dr. Balfour Marshall is in the habit of issuing full notes and diagrams to the students attending his lectures, and this book covers the ground occupied by a course of 100 lectures. In view of the purpose for which the book has been written authorities, with one or two exceptions, are not quoted, while subjects of everyday importance receive much fuller treatment than others less frequently met with in general practice. The work is well written in a methodical style, and should prove of great assistance to the student in reviewing his knowledge. The opinions held by the author are in conformity, in the majority of the subjects treated of, with those of most obstetric authors, and we feel that both his theory and practice are sound and good. Pregnancy, labour, and the puerperium are in turn discussed from the physiological and pathological point of view. The final section deals with obstetric operations.

We notice that the author describes a simple or aseptic thrombosis of the lower limbs under the pathology of the puerperium. It is, of course, true that some forms of thrombosis of uncertain etiology do occur in which there are unmistakeable degenerative changes in the endometrium. It is very doubtful, however, if the term aseptic can accurately be applied to these, and we feel that so many of these cases are in reality septic that to teach students that an aseptic thrombosis in the puerperium does occur—a very doubtful matter—is a little dangerous. No doubt in these cases the essential cause is the presence in the blood of autogenic or metabolic poisons, or of heterogenic toxins, and these act as irritants setting up the thrombosis. John Hunter, in his classification of phlebitis, did not admit of the possibility of the occurrence of any non-septic form, and in all probability future researches will prove that he was correct. In discussing the treatment of severe accidental hæmorrhage, the author says that as yet there is no generally accepted method of treatment. He describes the Rotunda methods, and then goes on to advise in cases of severe shock and hæmorrhage, after treatment of the shock by saline infusion, dilatation of the cervix, perforation of the fœtus, and rapid delivery, but whether he is really in favour of this procedure is not very clear.

The arrangement of the text is good, headings and subheadings being frequently used, and a special feature is the numerous outline diagrams, with explanatory legends, used to illustrate and amplify the text. These are very clear and helpful, and should prove particularly useful to the student, who often fails to appreciate the special points in more detailed drawings or reproductions of photographs. We can cordially recommend this book to students and practitioners.

Die Ursachen der Glykurie: ihre Verhütung und Behandlung. Von Dr. FRANZ ROSENBERGER, München. München: Müller and Steinicke. 1911. Pp. 348 + 93 (Bibliography and Indexes). Price 7.60 marks.

THE far-reaching relations of the carbohydrates to metabolism are readily recognised when a list of the causes of glycosuria is considered. Modern interest in the study of organic chemistry has led to a great increase in our knowledge of the composition of these substances and in the products of their disintegration, both *in vitro* and in the body. Physiologists, pathologists, and clinicians have not been slow to avail themselves of the information thus afforded and to apply it to the study of the problems of the metabolism of carbohydrates. As a consequence the literature of this subject is enormous.

Dr. Rosenberger, in preparing the remarkable book which is now under review, has been at the very great labour of examining the original articles in German, English, French, Dutch, and Russian literature, so far as they were obtainable, on the subject of the appearance of sugars in the urine. He has also used translated abstracts of papers published in Italian, Hungarian, Scandinavian, and Spanish. He has then collated the observations so recorded, and thus given a well-arranged and valuable review of the present state of knowledge on this question. A mere enumeration of the sections into which his book is divided may serve to give some idea of the range of his observations. Alimentary glycosuria is first considered at length, and the limits of tolerance for large numbers of sugars and other carbohydrates, including pentoses and heptoses, are given. Next the influence of pregnancy, birth, and the puerperium upon the metabolism of carbohydrates is exhaustively reviewed. A long section is devoted to the effects of poisons, which are classified according to their mode of action. The influence of trauma in inducing glycosuria and diabetes, and the effects of the infectious diseases upon the decomposition of sugars in the body follow. The effects of disease or other lesions of the following organs upon the production of glycosuria are considered in separate sections—viz., heart and vessels, the kidneys, stomach and intestines, liver, pancreas, and salivary glands, suprarenals, thyroid, and pituitary body. In the section upon the liver the subject of pigmented diabetes is fully discussed. The relations of obesity, gout, phosphaturia, pentosuria, lævulosuria, maltosuria, and other urinary sugars to carbohydrate metabolism are all separately considered. Other sections deal with the effects of the nervous system, and psychical and sexual conditions upon glycosuria and its production. The influence of heat and cold, the manner of life and heredity, are then considered. Special sections are devoted to the examination of diabetes insipidus, diabetes domesticus

(conjugal diabetes), and diabetes mellitus in animals. Certain general conclusions are summarised, and the last two sections are concerned with prevention and treatment. The bibliography, which is given at the end of the book, extends to 66 pages. It is arranged in sections more or less corresponding to those into which the book is divided. The sections in the book are wrongly numbered and do not correspond to those in the table of contents. There is an index of subjects and a separate index of authors.

Dr. Rosenberger's book is a valuable review of the literature of a complex and important subject, in regard to which there are still many gaps in our knowledge. It should be of use to all concerned in the investigation of this subject by saving much time in looking up references.

LIBRARY TABLE.

The Kala-azar Bulletin. Vol. I., No. 2.—This second quarterly number of the *Bulletin* supplies a considerable amount of interesting information and at the same time well maintains the high standard which the periodical set up when it made its first appearance. A large portion of the number is occupied with a valuable editorial article contributed by Dr. C. M. Wenyon on that form of leishmaniasis known under the name of infantile kala-azar, and sometimes termed infantile splenic anæmia. A summary is given of the knowledge which has so far been collected respecting this malady, including a short history of how it came to be recognised in Tunis and other countries on the Mediterranean littoral. A coloured map is appended showing the distribution of the disease, as also the places where the presence of canine kala-azar and oriental sore have been discovered. Other aspects of this variety of leishmaniasis are discussed, including its age and sex distribution, the social position and nationality of the sufferers, house and family infection, and seasonal prevalence. The symptoms are fully described, the diagnosis and prognosis being also carefully considered. The various methods of treatment which have been tried are then passed in review; it is discouraging to learn that none of them have so far yielded very satisfactory results. The treatment of canine leishmaniasis is then discussed, as also are the subjects of experimental kala-azar and natural kala-azar in animals. Another extremely interesting article is contributed by Dr. Wenyon on Dermal Leishmaniasis in South America and Panama. In this paper, among other forms, is described a disease to which a German investigator, Dr. P. C. Flu, has drawn attention as existing in British Guiana under the name of "forest yaws," in Dutch Guiana as "bochyaws," and in French Guiana as "pian-bois," of which leishmania is the causative agent, and of which there is some evidence that ticks are the transmitting hosts. Other papers deal with the blood in oriental sore and the treatment of that disease. A quarterly list of references completes the number, which will well repay a perusal.

Jahrbuch für Orthopädische Chirurgie. Bearbeitet von Dr. PAUL GLAESSNER, Orthopädischer Assistent der Chirurgischen Universitäts-Poliklinik in der Kgl. Charité zu Berlin. Erster Band, 1909, Zweiter Band, 1910. Berlin: Verlag von Julius Springer. 1911. Pp. 114. Price 10 marks.—This new annual, dealing with orthopædic surgery, covers the work of two years, but the respective years are paged separately and can be chosen out for binding. Orthopædic surgery has become so well marked a special department of surgery that it is only reasonable that it should have an annual confined to the subject. While there are several periodicals dealing with orthopædics, and an immense amount of orthopædic work appears in the general medical journals, hitherto there has been no publication in which all the work of the year has been summed up. Not only have the papers which appeared during the year been summarised here, but to a certain extent an attempt has been made to criticise them, so that the reader may have some indication of their respective values. Each portion of the subject is accorded a separate chapter, and at the end of each chapter the titles and sources of the papers are given. The book is much more than a mere series of abstracts of a number of papers, for the facts have been digested, so that the effect of the new material can be more quickly seen. This annual will be indispensable for all orthopædic surgeons who wish to keep abreast of the times, and Dr. Glaessner has conferred a definite benefit on those who practise his branch of surgery. In a short introduction Professor Pels-Leusden has pointed out the need for such a book, and that the work has been done well will be generally acknowledged.

Filariasis and Elephantiasis in Fiji; Being a Report to the London School of Tropical Medicine. By Dr. P. H. BAHR, D.T.M. & H. Cantab. London: Witherby and Co. 1912. Pp. 192. With many coloured and monochrome plates, numerous charts, and a map. Price 6*s.* net.—The extreme prevalence of elephantiasis in the Fiji Islands has long been remarked, and as this condition is commonly regarded as the principal expression of filarial infection the London School of Tropical Medicine considered the advisability of instituting a special investigation upon the subject. Owing to the generosity of Lord Sheffield, who contributed £500, and with assistance from a number of other sources, it was found possible to instruct Dr. Bahr to proceed to Fiji at the end of 1909 to carry out the necessary inquiries. He arrived in that colony in January, 1910, and remained there for about 13 months. His report is now published in the form of "Supplement No. 1 of the Journal of the London School of Tropical Medicine." It appears that about 27 per cent. of the Fijians harbour microfilariæ in their blood, but even this amount does not show the full extent of the infection, for there are grounds for believing that nearly every native of Fiji has suffered at one time or another from filariasis. Dr. Bahr brings forward some new and interesting facts. For example, the transmitting agent of the disease in Fiji is not, as elsewhere, the culex fatigans but the stegomyia pseudoscutellaris. Morphologically the adult worm in Fiji and its microfilaria are identical with filaria bancrofti, but the larval form of the filaria in Fiji shows no periodicity in the patient's blood, contrary to what happens with F. bancrofti in other countries. For this reason it might be argued that the worm in question was not F. bancrofti but some other species. Assuming, however, that the parasite is F. bancrofti, Dr. Bahr suggests that this absence of periodicity may be a partial adaptation to the habits of the intermediary host, since stegomyia pseudoscutellaris is a mosquito which feeds by day only; the absence of periodicity, in his opinion, does not depend on any racial peculiarity of the human host. Elephantiasis in Fiji most frequently affects the lower extremities and the scrotum. In many cases the filariæ occur in large numbers in the tissues, especially in the lymphatic glands and vessels, and also in other organs, including the epididymis, testis, and tunica vaginalis. In these situations the filariæ may die and become cretified. Whether alive or dead, the adult filariæ are the direct cause of fibrosis and blocking of glands and lymphatics. Microfilariæ emitted by the parent worm may not reach the circulation, but perish in the gland or organ in which the parasite is lying. Periodical discharges of micro-filariæ may be a factor in the production of lymphangitis, orchitis and funiculitis. The precise mechanism of the production of elephantiasis has yet to be determined, but that the filaria is the principal factor appears hardly open to doubt. The surgical and medical treatment of filarial disease seems at

present to be unsatisfactory. As regards prevention, Dr. Bahr thinks that mosquito destruction on the same lines as for malaria and yellow fever is the only means likely to prove of service in eradicating or seriously mitigating this important helminthiasis. Further continued investigation of filariasis in Fiji and other places in the Pacific is obviously desirable in order to settle some of the outstanding problems associated with filariasis and elephantiasis. Dr. Bahr's report may be confidently recommended to all who are desirous of studying the subject. His investigations constitute an important contribution to our knowledge of this interesting branch of helminthology.

What to Do in Cases of Poisoning. By WILLIAM MURRELL, M.D. Brux., F.R.C.P. Lond., Senior Physician to the Westminster Hospital. Eleventh edition. London: H. K. Lewis. 1912. Pp. 283. Price 3*s.* net.—When a small guide-book of this class has reached its eleventh edition but little remains to be said of it. Its popularity is evidence of the numbers that have found it useful. The present edition has been revised and brought up to date, and many new poisons which modern chemistry has added to the druggist's armamentarium are included. Several of these, among which may be especially mentioned veronal, have already a long list of deaths to their score.

MISCELLANEOUS VOLUMES.

ONE hardly looks on a directory as interesting literature, yet it is surprising how much interest can be extracted from a cursory perusal of the pages of the *City of London Year Book and Civic Directory, 1912* (London: W. H. and L. Collingridge. Pp. 382. Price 5*s.* net). While the information contained is, of course, largely mercantile—Stock Exchange, Baltic, and Lloyd's members, banks, liverymen, and trades' directories—full information is also conveyed in regard to the corporation and London County Council, the City officials, and, what is of more special interest to the medical profession, hospitals, asylums, and dispensaries, schools, Poor-law medical officers, sanitary administration, and so forth. The histories of the various livery companies are given. Special mention must be made of the excellent portrait of London's first medical Lord Mayor, Sir Thomas Boor Crosby, M.D., Master of the Society of Apothecaries.——As educational guides for members of the scholastic profession, parents, and pupils the *Schoolmasters' Year Book and Directory for 1912* (London: Year Book Press. Pp. lxxx. + 400 + 730. Price 12*s.* 6*d.* net) and the *Public Schools Year Book, 1912*, edited by Messrs. H. F. W. DEANE and W. A. EVANS (London: Same publishers. Pp. xxiii. + 797. Price 3*s.* 6*d.* net) will prove of great use and value. "The Schoolmasters' Year Book," in addition to an alphabetical list of secondary schoolmasters, contains a large amount of general information, including articles on the work of the year in the scholastic world, on administration, educational societies and organisations, examinations, degrees, diplomas, and so forth, while there is a list of secondary schools in alphabetical order, together with the names of their headmasters, officers, and the fees. "The Public Schools Year Book," which is the official organ of reference to the Headmasters' Conference, provides information about the public schools in a concise and handy form for reference. The list of entrance scholarships and the articles on the various professions give exactly the kind of assistance that the parent or prospective pupil is likely to require.——In *A Guide to the Income Tax* (London: Effingham Wilson. 1912. Pp. 148. Price 2*s.* 6*d.* net) Mr. F. B. Leeming shows how to make the return and prepare accounts in support, how to recover excess paid, or obtain reduction. He divides the taxpaying community into those who do not pay what they ought and those who pay more than they need, and essays to lead the former into the right path and to show the latter the absurdity of paying too much for want of taking a very little trouble. It is pretty safe to say that very few of the first class will be found among medical men; on the other hand, many of the second class may be very thankful for his assistance. A professional experience of over 30 years in the accounts of all sorts and conditions of men constitutes the author's title to deal with the subject. There are appendices containing settled cases and the legal definition of the scope of the Acts and court decisions (supplied by Mr. Thomas Charles Jarvis, barrister-at-law).—— In Spain the problems that confront the medical profession are no less acute than in other lands. In *El Malestar de la Clase Médica* (Burgos: Hijos de Santiago Rodriguez. 1912. Pp. 196. Price 3 pesetas), the author, Dr. Rogelio Pérez, while giving an account of the status of the medical profession and the disabilities, economical, social, and ethical, from which it suffers, puts forth a strong plea for united action among his *confrères* in the common cause. The second part of the book deals with the status and organisation of the medical profession in Austria, Belgium, France, Germany, and England, the latter article being supplied by Dr. Jameson Johnson, of Dublin, and the details afford interesting matter for comparison. It may be noted that the author acknowledges his indebtedness to Esperanto for the data used in the compilation of the second part of the book, whereby alone it was possible for him to solve the problem of obtaining trustworthy information from other countries, with the languages of which he was not fully acquainted.

JOURNALS AND MAGAZINES.

The Journal of Physiology. Edited by J. N. LANGLEY, Sc.D., F.R.S. Vol. XLIV. Nos. 1 and 2. March 29th, 1912. London: C. F. Clay, Cambridge University Press. Pp. 1-124. Price 7*s.* 6*d.*—In the first 42 pages H. Hartridge deals with three allied subjects—viz., a Spectroscopic Method of Estimating Carbon-monoxide, the Action of Various Conditions on Carbon-monoxide Hæmoglobin, and Heat Coagulation of Hæmoglobin Compounds. There are two methods in use for the estimation of CO, one the colorimetric carmine method of Haldane, the other the spectroscopic method of Hufner, which depends on the fact that if a substance absorbs from transmitted light any particular wave lengths, then an alteration in the amount of that substance passed through will of necessity affect the intensities of those rays that are involved in the absorption. After mentioning the factors governing the relation of absorption to colour, the author describes his method, for which we must refer the reader to the original paper. The author claims that the time required for estimation is far shorter with the spectroscopic method, while the quantity of blood used is only 0·01 c.c., and light changes have no influence on this method, which is not the case with the carmine method; also the presence of other pigments in the blood, with the exception of NOHb, is without influence on the method. The second paper is based on the observation that when air containing even as much as 1 per cent. of CO is shaken with blood solution in bright sunlight no pink colour at all is observed in the solution, yet when the bottle is shaken in the dark the pink colour at once reappears, thus showing the powerful dissociation caused by sunlight. The author finds that dilution, lactic acid, CO_2, and certain acid and basic salts are without influence on the final saturation of hæmoglobin with CO; while light, temperature, and species have a very marked influence. As to light, the ultra-violet rays are most active. Regarding heat coagulation of hæmoglobin compounds, the rates of coagulation of COHb are roughly those of O_2Hb at 11° C.

higher, while the stability of the COHb molecule to moist heat corresponds with its behaviour to other dissociating processes. NOHb, although able to displace CO from combination with Hb, is itself unstable. It tends to change spontaneously, even at room temperature, into alkaline methæmoglobin. F. W. Twort and E. Mellanby deal with Creatin-destroying Bacilli in the Intestine and their Isolation. Most of the evidence as to the part played by creatin and creatinin in the intestine depends on feeding experiments. These bodies appear late in the chemical history of animal compounds in vertebrates, and perhaps their function is a highly specialised one. The authors refer to Folin's results: that creatin taken by the mouth with a diet poor in nitrogen is almost entirely retained in the body—neither creatin nor the nitrogen is excreted; while if much nitrogen be taken in the diet the creatin is largely excreted unchanged. The suggestion is made that as creatin is highly susceptible to bacterial decomposition, Folin's results were due to the action of intestinal bacteria. The authors find that a large Gram-positive strictly anaerobic bacillus can be isolated from human fæces which can destroy creatin. It acts best in a medium containing solid muscle, and its rapidity of action is increased by bacilli of the colon type, probably by producing more perfect anaerobiosis. Some lactose fermenters and the tetanus bacillus destroy creatin. These results show that in the interpretation of creatin-feeding experiments the action of intestinal bacteria must be taken into account. C. Funk continues his researches on the Effects of a Diet of Polished Rice, and he finds that in polyneuritis in birds, produced by a diet of polished rice, the analysis of the brains shows a sensible diminution from the normal of nitrogen and phosphorus content in a proportion which suggests a breakdown of the lipoids of the brain. J. Parkinson deals with the Effect of Inhalation of Oxygen on the Rate of the Pulse in Health. After referring to the work of other observers the author states that he made 20 experiments and five controls on ten healthy students. Tracings were taken by Mackenzie's ink polygraph; the precautions observed are stated in the text. It was found that the rate of the pulse in health is reduced by the inhalation of commercial pure oxygen from a cylinder for 30 minutes. J. F. Gaskell, proceeding from the fact that the presence of tissues corresponding to those of the suprarenal cortex and medulla in all vertebrates has been known for some time, gives an account of Giacomini's work in which reliance was chiefly placed on histological investigation and on the bichromate reaction. The present investigation, on the Distribution and Physiological Action of the Suprarenal Medullary Tissue in Petromyzon Fluviatilis, was undertaken to determine whether the identity of the chrome-staining tissue with adrenal tissue could be substantiated by physiological methods. This tissue is spread very widely throughout the body and is in intimate relation with the large veins, with the large arteries, and even more intimately with the posterior nerve roots. Extracts cause a rise of blood pressure in the cat which can be matched by measured adrenalin injections. Extracts of all other tissues gave depressor effects. The chrome-staining tissue of P. fluviatilis is therefore identical with the medullary substance of the mammalian suprarenal gland. E. D. Adrian and Keith Lucas contribute a most elaborate and highly technical paper on the Summation of Propagated Disturbances in Nerve and Muscle, which is of importance to pure physiologists, but which does not admit of a concise summary in the space at our disposal. The short abstracts of Proceedings of the Physiological Society are: A New Calorimeter for Small Warm-blooded Animals, by A. V. Hill; Some Effects of Heat on the Sartorius Muscle of the Frog, by W. Burridge and F. G. L. Scott; and Calorimetric Observations on Man, by J. S. Macdonald.

Zeitschrift für Chemotherapie und Verwandte Gebiete. Herausgegeben von P. EHRLICH, F. KRAUS, A. v. WASSERMANN. Redaktion: FR. KEYSSER. II. Teil. Referate. Erster Jahrgang. Heft 2. Leipsic: Georg Thieme. Price, Originale, Band (4 Hefte) M.20; Referate, Jährlich, 12 Hefte, M.40.—This number contains abstracts of the principal communications in the English, German, French, Italian, Scandinavian, Dutch, and Hungarian languages on therapy based on the elective affinities of chemicals for particular body tissues and the organisms affecting them. The abstracts are written in either English, French, or German, principally the last.

Reports and Analytical Records
FROM
THE LANCET LABORATORY.

LAIBOSE.

(FAIRCHILD BROS. AND FOSTER, ALBERT CHAMBERS, 64, 65, HOLBORN-VIADUCT, LONDON, E.C.)

WE are told that laibose is a food composed of the solids of pure whole milk and the entire digestible substance of whole wheat, and our analysis endorses this statement. We found, for example, protein, carbohydrate, fat, and mineral matters, present in proportions compatible with the use of wheat and milk digested together. Close upon 75 per cent. of the preparation was found to be soluble in water. Further analysis gave the following results: moisture, 3·50 per cent.; mineral matter, 4·90 per cent.; proteins, 15·69 per cent.; fat, 24·60 per cent.; and carbohydrate, 51·31 per cent. The mineral matter consisted principally of the phosphates of calcium and potassium. These results point to the nutritive value of the preparation, and its general appearance and character bear evidence of a careful process of manufacture. Its flavour is pleasant, and it is free from starch. It should be of value in infant and invalid feeding.

ENGLISH ALE (COMPARATIVELY SUGAR-FREE).

(FREMLIN BROS., MAIDSTONE, AND DANES-ROAD, CAMBERWELL, LONDON, S.E.)

Our attention has been drawn to this ale by a medical practitioner who has found that on account of its relatively small amount of sugar it can be recommended in moderate quantities to sufferers from diabetes. He has reported to us that this ale did not by itself as an addition to the diet produce any fresh excretion of sugar, and in three cases in which a pint daily was taken no return of sugar in the urine was shown. He suggests that as a little alcohol is often beneficial in diabetic cases this malt liquor provides a suitable and palatable beverage. Analysis quickly differentiates this ale from ordinary English ale as the following results which we have obtained show: alcohol by volume, 6·17 per cent.; extractives, 2·55 per cent.; mineral matter, 0·30 per cent.; volatile acidity reckoned as acetic acid, 0·084 per cent.; fixed acid reckoned as lactic acid, 0·014 per cent.; maltose, 0·66 per cent.; and dextrin, 1·05 per cent. It will be seen that the total malt extractives in this ale are relatively low, and in fact the quantity is less than half of that shown in ordinary beer. It is considerably less than that contained in strong beers. Similarly, the amounts of sugar and dextrin are consideraby less than the quantity of these constituents commonly present in ordinary beer. The ale was in sound condition and had a pleasant clean

bitter flavour. Owing to the relatively small amount of sugar the ale is somewhat "dry" to the palate.

ECSOLENT COMPOUNDS.

(ECSOLENT COMPOUNDS, LIMITED, ECSOLENT BUILDINGS, ELTHORNE-ROAD, LONDON, N.)

We have analytically examined three preparations from the above company—a compound emollient, a powder, and a soap. All three are advocated for use in the treatment of eczema and other skin affections, and all three give evidence of skilful preparation. The ecsolent powder is reduced to a fine state of division and is well adapted for application as a dusting powder in various affections of the skin. It contains, according to our analysis, antiseptics and soothing agents of admitted value. The ecsolent compound is a clean, white ointment showing a perfect uniformity of composition. The unguent basis is a bland unirritating vehicle. We have read favourable accounts showing the value of this preparation, particularly in itching eruptions, such as eczema, erythema, psoriasis, pruritus, and intertrigo. Lastly, it is suggested that ecsolent soap should be used as an adjunct to the ecsolent compound. We find that it is an admirable soap, entirely free from irritating ingredients, and made pleasant to use by the addition of antiseptic aromatics.

MARTHA-QUELLE MINERAL WATER.

(INGRAM AND ROYLE, LIMITED, 45, BELVEDERE-ROAD, LONDON, S.E.)

This agreeable slightly alkaline water has its origin in a new spring called the Martha spring at Salzbrunn in Silesia. Our analysis shows it to be only mildly mineralised and mildly carbonated, but in many cases these are advantages in a water intended for table use. We found that the total mineral matters, when deprived of gas, amounted to 1·536 grammes per litre, consisting in the original water of the bicarbonates of calcium, magnesium, and sodium. The actual amounts found were as follows: calcium carbonate, 0·270 gramme per litre; magnesium carbonate, 0·132; sodium carbonate, 1·000; and sodium chloride, 0·131. Lithium is stated to be present, but we were unable to detect it, and the quantity said to be in the water is too insignificant to have any medical importance. The water is of course antacid and is peculiarly soft to the palate. It contains only a slight excess of carbonic acid, which it holds in solution with some persistence, due no doubt to its combination with the alkaline and earthy carbonates mentioned in the analysis. It is a pure and wholesome table beverage.

PLASMON BISCUITS.

(JACOB AND CO., LIMITED, DUBLIN.)

Proof of the presence of an addition of protein to these biscuits was furnished by the estimation of the total nitrogen. When calculated into protein the amount found was 19·79 per cent. We have already noticed plasmon preparations, but these biscuits deserve a further word on account of the satisfactory way in which the plasmon has been incorporated into the substance of biscuit. They are agreeable in flavour and their texture is good.

EURESOL PRO CAPILLIS.

(KNOLL AND CO., 8, HARP-LANE, LONDON, E.C.)

Euresol is favourably mentioned in the treatment of alopecia and seborrhœa. It is a yellow oily fluid, miscible with spirit, and its active ingredient is mon-acetate of resorcin, which is said to possess distinct advantages over resorcin itself. It is both stimulant and antiseptic. It may be mixed with diluted spirit for use on the scalp, but the following formula is preferred by some: perchloride of mercury, 4 grains; euresol, 2 drachms; formic acid spirit, 1 oz.; castor oil, 1 to 3 drachms; and alcohol (70 per cent.), 8 oz. The fatty basis of euresol is eucerin, a pure white odourless wool fat with remarkable water-absorbing properties which were described in our analytical columns in THE LANCET of March 9th, 1912, p. 657.

New Inventions.

STAFFS FOR THE PERFORMANCE OF SOME PERINEAL OPERATIONS.

WHEN stricture prevents the use of staffs large enough to ensure the division of the tissues satisfactorily I have found the method first used by the late Professor T. Annandale, and so highly praised by the late Mr. Reginald Harrison, admirable, viz., performing internal urethrotomy, and then dividing the stricture on a large staff. This operation and cystotomy can, I think, be best done by the instrument shown in Fig. 1—a staff for the easy and accurate performance of perineal cystotomy and external urethrotomy.

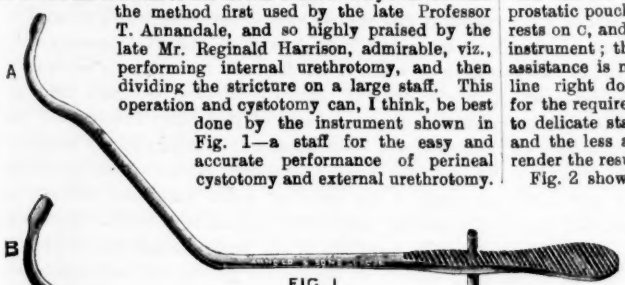


FIG. 1.

¼ SCALE

FIG. 2.

If, moreover, in the case of stricture the division of the superficial tissues be made in a crescentric way to either side of the mesial plane, and the stricture be divided in the usual manner, the cicatrisation of the skin wound will not correspond in site with that in the urethra, and radical cure will be more likely to result. A fits into the post-prostatic pouch of the bladder. The thumb of the left hand rests on C, and the remaining fingers stretch the penis on the instrument; thus there is a steady and fixed body to cut on, assistance is not required, and the cut is made in a straight line right down to the end of the groove, which runs for the required distance only. I have used guides attached to delicate staffs; but the dissection needed to reach them and the less accurate division of the massive tissue on them render the results less favourable.

Fig. 2 shows a staff for perineal prostatectomy. It was made many years ago but used only recently. Its use I found so satisfactory that it is worth describing. B, as in the preceding staff, fits into the post-prostatic pouch, and by the leverage the instrument affords the prostate can be much more easily dealt with from the perineum. There is a groove in this instrument also, but in the case for which I used it I did not open the urethra, adopting in lieu thereof the plan of shelling out the lateral lobes without entering the urinary tract—in a few selected cases a good, but not an original, expedient. The instruments have been made for me by Messrs. Arnold and Sons, Giltspur-street, London, E.C.

JAMES MACMUNN.

Finsbury-pavement, E.C.

THE LANCET.

LONDON: SATURDAY, MAY 11, 1912.

The Select Committee on the Trade in Patent and Proprietary Medicines.

AN inquiry into the practice of medicine by unqualified persons has long been asked for by the medical profession, and any such inquiry would almost necessarily have included within its scope the sale of patent and proprietary nostrums by persons who do not practise medicine in the sense of being personally consulted by their patients, or of paying, or pretending to pay, individual and personal attention to their needs. The Select Committee which has been appointed, and over which Sir HENRY NORMAN will preside, will only have within its purview this latter aspect of an important public question, but an exhaustive examination of the trade in question will occupy a long time, and may tend to show the desirability of investigating in like manner the other branch of the subject to which we have referred. The scope of the inquiry extends, no doubt, beyond the traffic in those articles which may be summed up as "patent medicines," but it is in this traffic that we are principally interested, and we make no concealment of our hope that the evidence to be given before the committee will lead to a considerable curtailment of a form of commerce which we regard as highly objectionable. In that hope we are encouraged by the evident alarm shown by those engaged in it, and particularly by a document issued to the press by the Owners of Proprietary Articles section of the London Chamber of Commerce. We are informed by the newspapers that a "strong committee" of such owners has in charge the interests of the trade, and we have no doubt that a vigorous effort will be made to defend them. In thus advancing its defence the trade, which of course has a perfect right to protect itself by all legitimate means, will probably receive its full share of sympathy from the lay press, for the wealthier firms included in it advertise upon an enormous scale, and it may fairly be said with regard to manufacturers of proprietary medicines, great and small, that without constant advertisement their business could never be carried on with profit. We cannot, however, at the present stage congratulate them upon the strength of their case as set out in the manifesto to which we have referred. It commences with a statement that "the agitation against proprietary medicines and foods has been mainly propagated by the medical profession, and is largely founded on the desire of the medical profession to extend their monopoly and to require the public to purchase medicine only on a medical prescription." The answer to this is that the whole trend of modern medical research and recommendation is in the direction of preventing disease in order to obviate the necessity for curing it, and that this tendency of modern medical thought has been recognised as embodying a desirable and practicable policy by the State, so that definite coöperation between the public and the medical profession is being established to diminish the supply of patients who otherwise might swell the emoluments of the latter body. It is in order to prevent the spread and growth of disease through self-neglect and its synonym self-treatment that the medical profession has protested constantly for many years against the unrestricted sale of quack "remedies." A like accusation to that put forward by the owners of proprietary articles was no doubt advanced by the quacks of the days of HENRY VIII. when they saw their trade interfered with by an Act of Parliament which answered them in its preamble in terms as applicable now as in 1511. That statute restricted medical practice to those qualified according to the standards of the day to exercise it, upon the grounds, *inter alia*, that quacks were wont to "apply such medicines unto the disease as be very noious and nothing meet therefore." This, it is added, conduces to "the grievous hurt, damage, and destruction of many of the King's liege people, most especially of them that cannot discern the cunning from the uncunning." We ask no more of the committee than that it should consider the interests of the public with special consideration for the limitations of the "uncunning," and we do not anticipate any excess of harshness on its part towards vested interests or towards any honourable and useful branch of commercial enterprise.

We need not analyse in detail the ten paragraphs which follow the one that we have quoted. Medical readers will not require contradiction from us of the statements that "the suggested necessity of protecting the public is illusory," and that "there is no evidence of special injury to the public by the sale of proprietary medicines." These are points which the committee has been constituted to deal with. There are not many representatives of the medical profession upon the committee, and the strength of the medical position with regard to quack medicines will therefore rest entirely upon the evidence which the medical profession may bring forward in support of issues for the raising of which it admits itself to be largely responsible. We will, however, point out to those who have read the manifesto of the Owners of Proprietary Articles that the anxiety of the latter appears to be largely caused by apprehension lest future legislation should insist upon the divulging of the formulas which have been followed in compounding proprietary articles of medicine offered for sale. The manifesto of the trade declares that an effort is being made "to include the well-known, well-established proprietary articles which are household remedies, and which are largely prescribed by members of the medical profession, in the same class as nostrums recommended by so-called herbalists and fraudulent quacks." As far as we are aware there is no ethical objection to a medical man prescribing the use of a proprietary article by his patient, except the professional rule, of which everyone's good sense must approve, that he should not recommend anything as to the composition of which he is uninformed. In these

circumstances the divulging of the constituents of a patent medicine, provided that the quality of the drugs used is assured, should lead to its being even more "largely prescribed" than at present.

We have discussed the subject matter of the coming inquiry generally, and before we leave it we would refer in particular to certain investigations which we ourselves held a few years ago into a special branch of the trade in proprietary articles. When we made our examination into the subject of "Quacks and Abortion" the iniquitous trade in "female pills" and "remedies for obstruction" was more openly advertised, and constituted no doubt a more profitable form of enterprise than now. It has not, however, ceased, although our efforts, combined with the revelations made in one or two criminal trials, caused the exclusion of advertisements of this class of wares from the columns of all self-respecting newspapers and periodicals. We then proved that practically all such advertisers, in reply to a letter that would leave no doubt as to the object for which the goods were demanded, and in return for payment grossly in excess of the intrinsic value of the articles supplied, were willing to sell without question or hesitation pills and potions to be taken with the intention and for the purpose of procuring abortion. That trade, as we have said, still goes on, and we hope that full evidence with regard to it will be before the committee. The inquiry should be interesting in more directions than one. It will be of special interest to learn the conclusions of the committee on the part played by the Government stamp in promoting the sale of patent medicines. The revenue accruing from the sale of such stamps is considerable, and no doubt some sacrifice will have to be made in the public interest if the stamp system is abolished or if any considerable curtailment of the trade in question is brought about. We welcome the present inquiry, which we believe will be conducted with no other object in view than the public good, and from which we hope a considerable measure of public benefit will result.

The Treatment of Pulmonary Tuberculosis by Tuberculin.

SINCE Professor KOCH announced in 1890 that he had discovered a specific remedy against tuberculosis, countless observations have been made as regards the value of tuberculin both as a therapeutic and as a diagnostic agent. The early experiences of its use unfortunately tended to throw serious doubts on its efficacy, and so uncertain did its manifestations appear to be that it was entirely discarded by the majority of physicians. In more recent years there have been introduced several varieties of tuberculin and similar preparations, a fact which demonstrates that a world-wide interest has again been roused in the attempt to establish a condition of immunity against the disease and its effects. The results which have been obtained have been by no means uniform, and many physicians are still sceptical as to the value of the treatment, whilst considerable doubt has been thrown upon its specific diagnostic properties. We do not propose at the present moment to discuss the latter subject, but in our issue of April 27th we published an address by Dr. ARTHUR LATHAM on the treatment of pulmonary tuberculosis by tuberculin, and this week we publish a review on a work written by Dr. W. CAMAC WILKINSON entitled "Tuberculin in the Diagnosis and Treatment of Tuberculosis." The conclusions arrived at by these two physicians offer some interesting and suggestive considerations. Dr. WILKINSON has continued to use tuberculin since its earliest introduction. With some investigators this fact would invest their experience and results with respect and confidence, but Dr. WILKINSON alienates much sympathy by the extreme manner which he has adopted, and some of his statements will tend to impair his clinical and scientific records. For instance, he appears to claim that in cases in the first stage of the disease he has achieved a successful result in almost 100 per cent. No physician who has had a large experience of this disease in hospitals and other nstitutions where the patients can be carefully watched can accept a statement of that kind, being aware of the vagaries of the malady and knowing also the results of other observers equally capable of judging with Dr. WILKINSON.

Strongly in contrast with Dr. WILKINSON'S contentions is the scientific and judicious manner in which Dr. LATHAM approaches the subject. He points out the difficulties with regard to statistical proof in medical problems, knowing that it is scarcely possible satisfactorily to compare the results of one observer with those of another, as the original data are not strictly comparable. With reference to the use of tuberculin in diagnosis he remarks that if an "old tuberculin" reaction can be relied on as showing the presence of tuberculosis which requires active treatment, then a large measure of success will be obtained by treatment with that remedy, but the results will be vitiated by the fact that a very considerable proportion of the cases would have shown equally good results by other methods, or, indeed, without any treatment. This view will receive ample support from physicians attached to hospitals for treatment of diseases of the chest. With regard to large doses and their increase, even in spite of reactions, Dr. LATHAM points out that in many chronic cases a general reaction, even when accompanied by considerable fever, which does not last more than 24 hours is followed by a very considerable improvement all round. In other instances, however, the reaction caused may last for days or even for weeks. When this happens the sensibility of the patient to tuberculin is sometimes much enhanced, and treatment with this remedy becomes more difficult or even impossible. As there is no trustworthy guide to the class of case in which a prolonged general reaction is likely to occur Dr. LATHAM considers it is best to avoid its production as far as possible by administering at first small doses, which do not produce such a reaction. With this view we are quite in accord.

Treatment by tuberculin is a useful method of therapeutics, but it is foolish to decry all other procedures, especially the "sanatorium." No physician who has had experience with the various methods adopted will support such a view. Tuberculin is a valuable adjunct in the treatment of

certain cases of pulmonary tuberculosis, but it must be used in conjunction with other methods if its full advantages are to be obtained. Combined with routine treatment in a sanatorium or other special institution, or at home if the surroundings are satisfactory, tuberculin, if carefully used, will yield valuable results. Tuberculosis cannot be eradicated by sanatoriums, or by dispensaries, or by tuberculin, or by any single measure. It demands a mobilisation of all forces, medical and social. To advocate one system in contradistinction to all others is to delay progress and to discredit scientific research. The prominent attention that has been drawn recently to the use of tuberculin has been valuable, but substantial advance is more likely to ensue if it is admitted that cases of pulmonary tuberculosis vary so much, even in the early stages, that there is no one method which can generally be adopted. The proceedings of the International Medical Congress have furnished material which may have considerable influence on the utility of the forces we have mentioned. The reports which we have published deal mainly with the social side of the question and are of interest in indicating the general, as apart from the purely medical, measures which may assist in diminishing the incidence of tuberculosis.

The National Insurance Act.

ON May 1st in the House of Commons, as we reported last week in our Parliamentary intelligence, Mr. J. A. GRANT brought forward a motion "that immediate steps should be taken by the Government to ensure the coöperation of the medical profession in the administration of the National Insurance Act, and that until such coöperation is ensured the Act will fail efficiently to provide medical benefit." It is significant that no division was taken on a motion which in effect stated that medical men were right in distrusting the provisions of the Act. It must have come as a surprise to many who have followed closely the progress of the Chancellor of the Exchequer's scheme that he should have raised no objection to the terms or the spirit of this motion, save in a closing remark to the effect that he would take no share in a "party-rag." He implied that what was asked for by the medical profession was being done and that with patience all would come right—even for the medical profession. Meanwhile, he sketched out a plan whereby insured persons might receive medical benefit without considering the interests of those who must be asked to provide it. Here it is to be noted that Dr. CHRISTOPHER ADDISON, speaking for the Government and as a prominent member of the Advisory Committee, absolutely discarded the £2 per week income limit. In the face of this it seems unlikely that the Advisory Committee, however much its medical members may protest, will recommend the Insurance Commissioners to meet this demand, or that the Commissioners will do so even if they are so advised; and Mr. LLOYD GEORGE has declared further that the rate of payment for medical services asked for by the British Medical Association would add the impossible sum of £3,000,000 per annum to the cost of working the Act. After such clear signs of an inflexible attitude towards two of the most vital demands of the medical profession, there was something rather hollow in the plea that the House should not prejudice the action of the Advisory Committee, but should encourage everybody to wait patiently in the sure hope of a satisfactory issue. The Advisory Committee, whose deliberations begin this week, has no excessive medical representation, and we should think that the Committee as a whole is quite likely to be prejudiced by what has just been said from the Government benches.

When dealing last week with the interim report of the Departmental Committee on Tuberculosis, which has been appointed for the purposes of the Insurance Act, we noted with approval that this Committee insisted that the lasting success of any antituberculosis scheme must primarily depend upon the coöperation of the general practitioners of the country. If this is true of one part of a great national scheme of health insurance it must equally be true of the whole. It is difficult to conceive how the cordial sympathy and interest of general practitioners can be obtained for one portion of the measure if they are smarting under the short-sighted injustice of the rest of the medical provisions. It may be that the members of our profession, in estimating the fees which they ought to ask for and in judging the financial provisions of the Act in general, have not taken into account certain additional payments, or their equivalent, which would come to them under the Act; but so far their legitimate objections to many medical features of the Act have not been met, and they look forward with misgiving to the results of present and future negotiations. The Act as it stands puts medical men at the mercy of local committees on which the representatives of approved societies are in a strong majority; it may involve medical men in endless local disputes, while restricting their area of private practice and depreciating the sale value of their practices. This prospect has stirred up deep resentment in the ranks of the profession, and as time runs on we do not see that any attempt of a substantial character is being made to allay apprehension. On the other hand, the public has discovered during the past few days that the medical opposition to the Act spells something more than empty protest. It has learnt in a rather sensational way that the British Medical Association is submitting to the profession a new form of undertaking designed to meet the situation which the threatened suspension of medical benefit would produce. The terms of this "new pledge," which we outline elsewhere, supply one more proof that the medical profession is in earnest.

The Chancellor of the Exchequer's National Insurance scheme has now been before the public for exactly a year. It was launched, we are sure, with the best of motives and with an earnest desire for the support and collaboration of the medical profession. But a part of the framework was designed and laid down without due regard to certain principles which are all-important as much for the good of the public as for the social and scientific well-being of our profession. No one can deny that the author of the scheme has made prodigious efforts during the past twelve months to overcome medical opposition: he has, we believe, worked hard in deed, and in words he has ranged from flattery to invective; and yet success is not in sight.

Annotations.

"Ne quid nimis."

APRIL AT HOME AND ABROAD.

A SPELL of dry weather, with keen winds from north east and east, is not at all unusual during early spring in this country, but it seldom happens that rain is entirely absent for more than six or seven days in succession, and in respect of absolute dryness last month went beyond any previous record in London, and was among the most droughty periods ever recorded over a very large portion of the kingdom. In the metropolitan area slight sprinkles of rain occurred on two or three days, and measured a total varying from 0·02 in. at Westminster to 0·06 in. at Kew and 0·09 in. at Hampstead. The dry April record for London has hitherto been held by the summer-like fourth month in 1893. At the Greenwich Observatory the rainfall observations have been taken regularly since 1815, and until this year the driest April was that of 1817, with the trifle of 0·06 in. This year the figure was only 0·02 in. On the south coast, as in London, there were only two or three days with rain; at Brighton the aggregate was 0·08 in. and at Bournemouth 0·16 in. The keenness of the north-east wind which was so prevalent during the later days of the month was much modified by the sunshine during the daytime, but many of the nights were very cold, and frost occurred from time to time in nearly all localities a few miles from the coast, and occasionally even on the seaboard. A more generous amount of sunshine has been recorded in April in only two years since the reports began. In 1893 and also in 1908 the figure was higher, but the difference was very slight. Last month a large part of the kingdom received about 2½ hours per day more than the normal. In London and its vicinity the records were fairly equal, but the City, with 198 hours, had rather more than an hour per day less than Hampstead, while at Westminster there was about half an hour per day less than at the northern suburb. Not one day was quite sunless, and on several days after the middle of the month the record exceeded twelve hours. On the coast of Lancashire and in North Wales the aggregate record was about equal to that in London, while on the south and south-west coasts it was higher. The mean temperature of the month was in excess of the normal, but owing to the cold winds of the latter half the plus value was small. In the metropolitan district the mean afternoon maximum was 57° at Hampstead, 58° at Kew, and 59° at Greenwich. At night Kew was the coldest locality, its mean minimum (39) being 2° lower than at Hampstead. On the continent the general condition, although dry, was less so than in this country. At Paris rain fell on four days and measured 0·5 in., and at Biarritz and Nice there were seven days with rain, giving respective totals of 0·6 in. and 1·8 in. At Paris the sun shone for 235 hours. This is a very good figure, but not much higher than in the City of Westminster and less than on the south coast of England. On the Riviera the climate was seasonably warm during the day and not unduly cold at night. Sunshine was very prevalent, and the clearing of the cloud after the occasional rain was rapid. At Biarritz there was not quite so much sunshine, and the mean temperature of the afternoon was about 2° less than at Nice. This was, however, amply compensated for by the relative mildness of the nights, the mean of the minimum readings being no lower than 48°, or 4° higher than at Nice. In Italy the weather was more variable and rain more frequent. The month began and ended with rather heavy downpours, while between the 9th and 18th there were considerable quantities of rain, sometimes locally and sometimes over a large area. A gentle advance was noticeable in the temperature. Early in the month it rarely rose much above 53°, but after the middle it usually found the 65° mark during the afternoon, and occasionally touched 70°. The month as a whole was, however, rather cool for the time of year, and the wind current was often strong from some northerly point of the compass. The coasts of Algeria and Tunis were not at all uncomfortably hot, and welcome rain was not infrequent. On most days the sheltered thermometer remained below 70° and seldom went much above that point except locally. As in Italy, the weather was rather cool for the time of year. On the western and southern coasts of the Spanish Peninsula the weather was mostly fine and warm, the temperature being some degrees higher than on the Riviera, and generally very little lower than on the coast of Algeria. In the central regions of the continent the early part of the month was colder than in these islands, but subsequently the temperature rose rather quickly and afternoon readings of 60° and above were much more common than in England. Switzerland had little frost away from the high mountains, and sunshine was more common than an overcast sky, while rain, although more frequent than in this country, caused little inconvenience to visitors.

COMPLEXION AND CLIMATE.

THE oft-asked but never satisfactorily answered question whether blonde or brunette girls make the best wives is doubtless familiar to most of our readers, but this battle of the complexions has assumed another phase, and a new controversy has arisen over the point whether the fair or the dark men are the best fitted to stand the effects of prolonged residence in a tropical country. It is obvious that this question is of considerable importance to nations whose sons are sent forth to take their share in the government of colonies and dependencies, whether as civil servants or as members of the military or police forces. The commercial community engaged in exploiting the resources of such regions is also deeply interested, as well as other persons, in obtaining a correct answer to the question. There is not as yet a general consensus of opinion as to what precisely is the chief cause of deterioration of the white man's health in a hot country. Many maintain that it is entirely the height of the atmospheric temperature, while others ascribe it to the large proportion of chemical or ultra-violet rays contained in the tropical sunlight. Other factors have also been brought forward, among which may be mentioned unsuitable food, bad water, and, perhaps most important of all, the prevalence of various parasitic infections, more particularly those which are spread by blood-sucking insects. Excessive heat along with humidity without doubt causes a disinclination to take active open-air exercise, and this unfavourably affects the health. Isolation from friends and relations along with the monotony arising from the absence of accustomed social relaxations may lead in particular cases to undue indulgence in alcohol or to other excesses prejudicial to mental and bodily health. In order to throw light upon this subject an investigation was recently undertaken by Major Weston P. Chamberlain, of the Medical Corps of the United States Army, who, in his capacity of President of the Army Board for the Study of Tropical Diseases as they exist in the Philippine Islands, had special opportunities for carrying out an inquiry of this kind. His results were lately published in the *Philippine Journal of Science*, Vol. VI., No. 6, in a paper entitled "Observations on the Influence of the Philippine Climate on White Men of the Blonde and of the Brunette Type." A large

number of his observations were conducted upon two groups of men, about 500 of whom were selected as typical blondes and 500 as typical brunettes, from among the American military and police forces serving in the colony. A number of detailed physical examinations and laboratory tests were carried out, and the relative amount of sickness occurring in each group was noted. Some data were collected as to the relative proportion of blondes and brunettes invalided home, as compared with proportions of the same types among 10,000 enlisted men in the United States Army. Particulars were also obtained of a series of cases of sunstroke and heat exhaustion occurring in the United States in which the type of the patients' complexion had been recorded. It seems at first sight natural to suppose that dark-complexioned persons would best stand the effects of a hot climate, since the natives of the torrid zone are all dark skinned; and this pigmentation and similarly the tanning of the Caucasian's skin might be regarded as a protective effort of Nature against the chemical activity of sunlight. The negro stands a hot climate well owing to a certain anatomical difference in his skin, which keeps cooler than that of the white man, this being the result of the sweat glands of the former secreting more evenly and more copiously than those of the latter. Major Chamberlain thinks it doubtful if the actinic component of sunlight is a factor in what is termed the tropical deterioration of health in the white man. The experimental work of Aron at Manila on the action of the tropical sun on men and animals seems to show that its deleterious influence is due to the long heat-rays rather than to the short length ultra-violet waves. The evidence collected by Major Chamberlain was in certain particulars conflicting, but this is what might be expected if there was no real diversity between the two types as regards resistance to tropical influences. The differences which were noted were so slight that no clear distinction can be made as to the effects of climate upon fair or dark men. This naturally suggests that some other factor than complexion has a share in affecting the results. While it appears, as a result of Major Chamberlain's investigations, that in selecting men for service in the tropics the colour of the complexion need not be considered, there is also this further indication—namely, that one of the main factors in the maintenance of health in hot countries is proper sanitation, using the term in its widest sense, and including in it extermination of insects and other vermin with destruction of their haunts and breeding places.

ORGANISATION AGAINST HOSPITAL ABUSE.

THE problem of hospital abuse will scarcely be solved, although it may well be complicated, by the operation of the National Insurance Act. For this reason alone the subject is still full of interest. In a very thoughtful article entitled "Checking Waste in Dispensary Work"[1] Mr. Porter R. Lee, the general secretary of the Philadelphia Society for Organising Charity, classifies the sources of waste under four heads—viz.: (1) the giving of free treatment to patients able to pay; (2) the giving of successive, or even simultaneous, treatment by different charitable organisations, each being in ignorance of the operations of the others; (3) superficial diagnosis, due to lack of time or lack of information; and (4) failure to relate the treatment to the social background of the patient. Mr. Lee insists on the importance of investigation into these points as a business matter comparable to the importance of telephones and bookkeeping as contributing towards efficient work, and he considers it doubtful whether dispensaries are morally justified in refusing to undertake such investigations and to extend them as rapidly as funds will permit. He passes in review the ordinary measures of requiring information cards to be filled up on the first application for medical aid, and of the division of cities into districts, each dispensary or hospital out-patient department agreeing not to work outside its own area, and then discusses that aspect of the subject in which ineffectiveness of the treatment, rather than fraud, is the real source of waste. In regard to this he urges the establishment of bureaux for the exchange of confidential information, through which one society may learn, upon inquiry, whether other agencies have a knowledge of the families or individuals who are seeking help. All such charities should file periodically the names, addresses and identifying information concerning those who seek their aid. Such a central information bureau is already at work in Boston, U.S.A., and is used by nearly a hundred of that city's charitable agencies. This plan not only checks fraud and avoids duplication and overlapping of work, but it coördinates the efforts of other social workers to the best advantage of the patients themselves, inasmuch as medical treatment in the dispensary without regard to what happens outside is of doubtful efficiency.

[1] International Clinics. Vol. iv., Twenty-first Series, 1911. London and Philadelphia: J. B. Lippincott Co. Pp. 322.

DIAPHRAGMATIC HERNIA.

DIAPHRAGMATIC hernia is occasionally found post mortem or during operations, but a diagnosis has rarely been made. In the *Interstate Medical Journal* for April Dr. N. B. Carson and Dr. L. Huelsmann have reported the following case. A married man, aged 58 years, a farmer and lead miner, was admitted into hospital on August 27th, 1911. While working in a mine in a sitting posture on Jan. 11th at 2 P.M. the roof fell in, covering him with about 3 ft. of clay. He was doubled up, his head and chest being forced down upon his abdomen and legs. He suffered severely from pain in the abdomen and lower chest. From the time of the accident until midnight he had great difficulty in breathing. He was confined to bed for about a month, after which he went about on crutches. On rising in the morning he suffered from severe cramps in the epigastrium and left hypochondrium which lasted from two to three hours. He also had pain in the epigastrium immediately after taking food, and this lasted for an hour. There was no nausea, vomiting, or belching, but a sense of fulness and desire to belch with inability to do so. His appetite was poor and he had lost 33 lb. since the accident. There was a history of stomach trouble for 25 years, attacks of excruciating pain in the epigastrium radiating to the right shoulder and lasting about half an hour occurring at intervals of about two years. On examination the left chest was more prominent than the right and moved less on respiration. Vocal fremitus was diminished on the left side below the level of the second rib anteriorly and posteriorly below the spine of the scapula, and was absent below the level of the sixth rib in the anterior axillary line. The percussion note was hyper-resonant below the second rib anteriorly and posteriorly below the spine of the scapula. The tympanitic note of Traube's space was obscured. The respiratory murmur and vocal resonance were much diminished below the spine of the scapula posteriorly. The respiratory murmur was absent and the vocal resonance was diminished below the level of the second rib anteriorly, and both were absent at the level of the sixth rib in the anterior axillary line. The cardiac dulness extended 1½ inches to the right and 1 inch to the left of the sternum. The apex beat was neither visible nor palpable. In the recumbent posture the hyper-resonance observed anteriorly became tympany and the breath and voice sounds disappeared. Posteriorly the dulness was replaced by tympany. The breath sounds were absent below the second rib and borborygmi

were heard. In the abdomen a mass of the size of an egg was felt in the right lower quadrant which on laparotomy proved to be the gall-bladder full of gall-stones. They were removed and the gall-bladder was drained. After recovery he was examined by radioscopy. Bismuth given by the mouth was seen in the abdomen, but given by the rectum was seen partly in the thorax. Four hours after the administration of bismuth it was seen in the chest. Diaphragmatic hernia was diagnosed and another operation was performed. Ether was administered by insufflation through a catheter introduced into the trachea. An incision was made in the eighth left intercostal space from the sternum to the erector spinæ. Before opening the pleura the pressure in the lung was raised to 25 millimetres of mercury. The rib stretcher was introduced, but on account of rigidity of the ribs enough space could not be secured and it was necessary to resect the seventh, eighth, and ninth ribs. The chest was full of small intestine, which were pushed down. A large opening was found in the diaphragm, extending backwards for about an inch from the costal cartilages in front to the posterior limit of the diaphragm behind. Through this opening came into the pleural cavity all of the stomach, transverse colon, and omentum, parts of the ascending and descending colon, and about 15 ft. of small intestine. After several attempts to return the mass into the abdomen an opening was made below the costal margin, the hernia was reduced, and the opening in the diaphragm was closed with silk sutures. The hernia was evidently congenital, for the pleural and peritoneal surfaces were continuous and the edges of the opening were sharp, smooth, and regular. Recovery ensued, the lung and the heart gradually came over to the left side, and the symptoms disappeared.

MODERN SANITARY SCIENCE IN THE PHILIPPINES.

THE best possible object-lesson of the beneficence of modern sanitary science is that afforded by the improvement in the public health of countries formerly considered unhealthy, as they come more and more completely under the administration of civilised governments. Cuba and Panama are two such countries, whose condition to-day is a standing testimonial to the United States administration. A more recent example is to be found in the Philippines. In the Annual Report of the Bureau of Health for the Philippine Islands for the fiscal year ending June 30th, 1911, by Dr. Carrol Fox, acting director of health, there are many points of general medical interest. The state of the public health at the end of the year is reported as being more satisfactory than at any time during the past ten years. As in India, many difficulties are encountered through the ignorance, superstition, and especially the fatalism of the natives, but these, it appears, are being overcome with considerable tact. To such influences are to be attributed many of the deaths that occur without medical attendance being called for and a great part of the infant mortality. Among the measures undertaken by the administration in Manila to surmount these obstacles are the appointment of municipal medical officers, the free dispensary medical service and free obstetrical service, popular lectures to women by the professor of obstetrics, the distribution of educative circulars, and the provision of free transport to the hospital for indigent people suffering from chronic curable surgical ailments. Much care is taken to improve the milk and water supplies, the latter being now drawn from artesian wells which are being driven throughout the Philippine Islands, and the water from which is examined by the Bureau of Science and passed by the Bureau of Health. Occasional fæcal contamination has been traced to the individual who collected the water allowing it to trickle over his fingers and thus contaminating it with the colon bacillus. A second examination of water from the same source, collected under aseptic conditions, almost invariably shows it to be of good quality, and confirms the above view of the mode of contamination. Simple remedies and emergency disinfecting packages are freely distributed through the district health officers. Sewerage, drainage, clearing of rank vegetation, screening of doors and windows, oiling of pools and stagnant waters every six days, and the free distribution of quinine are having an important effect in reducing malarial infection. With regard to small-pox and vaccination, it is interesting to learn that more than 10,000,000 people have been vaccinated in the Philippines without a single death occurring, and small-pox, which had been prevalent since the occupancy of these islands by the Spaniards, has practically ceased to exist. In regard to other diseases, it is noteworthy that the results obtained by substituting unpolished for polished rice in institutions of the Government of the Philippines have been all that could be desired, for at present beri-beri is an unknown disease in all these institutions. The last case of plague originating in the islands occurred on April 26th, 1906. Rat destruction is proceeding apace. The cholera outlook is more promising than it has been for several years: not a case has been reported in the islands since March 9th, 1911. The report finally contains some interesting pictures of the New Philippine General Hospital at Manila, which show it to be well constructed and of commanding beauty.

THE PHTHALEIN TEST IN RELATION TO RENAL FUNCTION.

AN interesting study, both experimental and clinical, of a new test of renal activity is recorded by Dr. L. G. Rowntree and Dr. J. T. Geraghty, of Baltimore, in the *Archives of Internal Medicine* of March 15th. The substance employed in the test is phenolsulphonephthalein, a drug originally described by Remsen. It is a bright-red crystalline powder, somewhat soluble in water and alcohol and readily soluble in the presence of alkalies. It is non-toxic, non-irritant locally, and is excreted almost entirely by the kidneys with great rapidity. In alkaline solution it presents a brilliant red colour which renders it very suitable for quantitative colorimetric estimation. For this purpose the Duboscq colorimeter was employed at first, but more recently the Autenrieth-Königsberger instrument, which is much cheaper, has been modified and used with satisfactory results. Twenty minutes to half an hour before applying the test the patient is given from 200 to 400 c.c. of water in order to ensure free urinary secretion, lest delayed time of appearance of the drug in the urine should be due to lack of secretion. The method adopted is as follows. A catheter is introduced into the bladder under aseptic precautions and the bladder is completely emptied. The time is then noted, and 1 c.c. of a carefully prepared solution of phenolsulphonephthalein containing 6 mg. to the cubic centimetre is given by subcutaneous, intramuscular, or intravenous injection. The urine as it flows is allowed to drain into a test-tube containing a drop of 25 per cent. sodium hydroxide solution, and the time when the first faint pinkish tinge appears is noted. In patients without urinary obstruction the catheter may then be withdrawn and the patient directed to pass urine into one receptacle at the end of one hour and into a second one at the end of two hours. Each sample is measured and the specific gravity taken. A sufficient quantity of the 25 per cent. solution of sodium hydroxide is then added to make the urine decidedly alkaline, so as to elicit the maximum colouration. In acid urine the colour is yellow or orange, but this changes to a brilliant purple-red when the reaction is made alkaline. This solution is

diluted with distilled water up to one litre, and a small filtered portion is taken to compare with a standard solution. Dr. Rowntree and Dr. Geraghty give descriptions of numerous series of observations which they have made with a view to determine the value of the test and the clinical significance of its indications. They find that the absorption of phenolsulphonephthalein occurs more readily after injection into the lumbar muscles than after gluteal injection or subcutaneous administration, and they therefore recommend its being given by injection into the lumbar muscles. By experiments on animals they showed that those diuretics which stimulate the renal cells caused some increased secretion of phenolsulphonephthalein, while those which act mechanically did not. Clinical observations upon man failed to show any effect of diuretics upon the output of the phenolsulphonephthalein. As a result of animal experiments it would appear that the drug is excreted chiefly by the tubules, but also to a slight extent by the glomeruli. Dr. Rowntree and Dr. Geraghty find that the test as employed according to their method has many advantages over all other tests of renal function at present in use; among other reasons because of the early appearance of the drug in the urine and because of the rapidity and completeness of its elimination by the kidneys. They further claim that the method of quantitative estimation of the drug is simple and exceedingly accurate. They have applied it to the study of medical and surgical diseases of the kidney and urinary tract, and find that in nephritis, both acute and chronic, it is of value from the points of view of diagnosis and prognosis by revealing the degree of functional derangement of the kidneys. In cardiorenal disease it also serves to determine to what extent renal inadequacy is responsible for the clinical phenomena. In uræmia the test appears to be of great value, since it not only serves to distinguish uræmia from conditions which simulate it, but also may indicate its approach when no clinical evidence is forthcoming. In cases of urinary obstruction it proves very useful, and enables the surgeon to select a time for operation when the kidneys are in their most favourable functional condition. The method can be applied to the study of the functional efficiency of each kidney by catherisation of the ureters. There are now several tests of renal function, and their importance is very generally recognised. The test described by Dr. Rowntree and Dr. Geraghty appears to have many advantages and to be quite harmless, so that it is worthy of further investigation by physicians and surgeons in the study of their cases of renal disease.

A CONGRESS OF COMPARATIVE PATHOLOGY.

OUR Paris correspondent, in his letter dated April 30th, mentioned the forthcoming First International Congress of Comparative Pathology, which will take place in Paris from Oct. 17th to 23rd of this year, and indicated the various questions that will come under discussion. The work of recent decades has demonstrated the impossibility of putting any hard-and-fast limitations to the boundaries of human, animal, or even vegetable pathology, and has made increasingly clear the fact that all are interwoven in their reaction to one another. The horizon of science is ever widening, and to pathology, as to anatomy and physiology, as applied to the human being, must now be accorded the coördinating power of comparative study. The First Congress of Comparative Pathology appears to be launched under auspices that hold out a hope of real service to medicine, as is shown by the fact that the Ministers of the French Government have accorded it their patronage, and the list of its supporters in the country of its origin contains many of the names familiar in medicine, veterinary science, and sanitary science. A departure from the usual practice in international congresses is to be found in the decision to abandon the formation of sections, and to have all the papers submitted and discussed in general meeting. This decision has been come to in consequence of the impossibility under the usual routine of following the work of a Congress in its entirety owing to the simultaneous presentation in different places of many papers on subjects in all of which an individual may be equally interested. The membership fee is 20 francs for active members and 10 francs for associate members—i.e., for those of the family of members who may attend and who will be admitted to all the sessions, fêtes, receptions, and so forth, but without a right of taking part in the discussions. Foreign official delegates will be exempt from membership fees. A reduction in the fares of the French railways is promised. Papers must be presented in French, but speakers may use their own language in the discussions. All communications for the Congress, with an abstract thereof, must be in the hands of the secretary-general before July 15th. Further information can be obtained by addressing the secretary-general, 42, rue de Villejust, Paris.

NERVE-ROOT IRRITATION FROM LUMBAR PUNCTURE.

INJURY of the cauda equina during lumbar puncture is very rare, though it has been mentioned by Quincke. In the *Boston Medical and Surgical Journal* of March 7th Dr. F. M. Rackemann and Dr. E. W. Taylor have reported the following case from the Neurological Clinic of the Massachusetts General Hospital. A machinist, aged 50 years, went to the hospital in November, 1911, complaining of weakness and numbness in the right side. He had led an active and industrious life and his habits were good. During exceedingly hot weather in July, after some exertion, he suddenly fell to the ground unconscious and remained so for an hour and a half. He recovered, but after ten days blurring of vision, loss of memory, and weakness of sight supervened. Examination showed little abnormal. The knee-jerks were feeble, and there was considerable swaying when the eyes were closed. Wassermann's reaction was negative. Though there were no signs of arterio-sclerosis a provisional diagnosis of cerebral arterio-sclerosis was made. At 11 A.M. lumbar puncture was performed between the third and fourth lumbar vertebræ to the right of the median line. With some slight difficulty the spinal canal was reached, but fluid did not flow. The needle was therefore slightly withdrawn, and again thrust forward. A sudden sharp contraction of the right gluteal muscles and of the posterior muscles of the thigh occurred, associated with intense pain. The patient described the sensations as "burning" and "like a current of high voltage shooting down the back of the leg." On moving the needle the muscles of the leg contracted when it was at a certain angle. Fluid was obtained within two minutes, and the needle was withdrawn, with immediate cessation of the symptoms. The patient was very pale, and almost collapsed during the operation, but recovered sufficiently to go home. At 4 P.M. he had a severe chill, which lasted about five minutes, after which he had alternate chills and fever for four to five hours. About 6 o'clock violent headache with pain throughout the body began. The latter was worse in the right leg and at the bottom of the spine, and was so severe that he could neither sit down nor lie with comfort. He spent the night walking about the room. This condition continued until the early morning of the third day, when for the first time he could sleep for a few hours. He awoke free from pain, but very weak. For the ten following days he had a dull pain in the right gluteal region which he described as a feeling as if he had been kicked by a horse. This pain

was aggravated by walking, and became severe on holding the leg in an abducted position. When seen again, some weeks later, he had completely recovered. He was a man of slender build and evidently a good subject for the operation. He was courageous and capable of standing much pain. It was clear that he suffered severely during the period of spasm of the muscles. The explanation appears to be that in the manipulation of the needle one or more of the sacral roots were impinged upon or even penetrated. This seems to be an unavoidable accident, but produces no permanent ill-effects, though the symptoms are severe. Lumbar puncture has been established as a safe procedure in the absence of undue intracranial pressure. In most of the deaths which have occurred—to the number of about 30—the necropsy has revealed the presence of this condition. In a considerable proportion of the cases of lumbar puncture, headache of a persistent and annoying kind has occurred. To prevent this Curschmann has advised the injection of sterile saline solution into the spinal canal in amount equal to that of the fluid withdrawn. This has been tried at the Massachusetts General Hospital with good results.

THE CHEMISTRY OF RARE RAIN.

AFTER a drought continuing for five weeks rain fell on Saturday last generally throughout the country, and the opportunity was thus afforded of examining samples of rain with the view of ascertaining whether the long arid interval had affected its composition in any way. Clean samples of the water caught on the roof of THE LANCET Offices about an hour after the shower had begun were submitted to partial analysis with interesting results. A feature of the analysis was an unusual amount of ammonia in the water. This, of course, had been washed out of the air. The quantity found was equal to 0·525 grain of ammonia per gallon of the rain water. This is about seven times the amount found volume for volume in rain in normal times of rainfall. It would appear, therefore, that in spite of prevailing winds ammonia had accumulated in the air, which was removed when the rain fell. The result, as shown by these figures, is a relative excess of ammonia in the first shower after a drought. The suggestion is that the first shower of rain which succeeds a drought has in it augmented fertilising properties, and it is probable that this delayed fall serves as a specific stimulant to vegetation apart from the refreshing qualities of rain *quâ* rain. It is noteworthy that vegetation rapidly recovers its delightful soothing fresh green aspect when the shower that has been a long time coming at length drops "upon the place beneath."

ROYAL COLLEGE OF SURGEONS OF ENGLAND: DINNER TO THE LORD MAYOR.

A DINNER to the Lord Mayor, Sir Thomas Boor Crosby, was held in the Library of the Royal College of Surgeons of England on Friday, May 3rd, in honour of his being the first medical man to occupy that high office. He became a Member of the College in 1852 and a Fellow in 1860. The President, Mr. Rickman J. Godlee, presided, and among the guests present were: Sir John Tweedy (Past President), Sir Archibald Geikie (President of the Royal Society), Sir James Porter, Sir William Gubbins, Sir R. Douglas Powell, Sir Philip Magnus, M.P., Sir William Church, and Mr. A. W. Mayo Robson. The members of the College Council present included: Mr. C. W. Mansell Moullin and Mr. Clinton T. Dent (Vice-Presidents), Sir Henry Morris, Mr. Edmund Owen, Mr. F. Richardson Cross, Sir Alfred Pearce Gould, Mr. G. H. Makins, Sir Frederic Eve, Sir Anthony A. Bowlby, Mr. Gilbert Barling, Mr. C. H. Golding-Bird, Mr. Harrison Cripps, Mr. C. J. Symonds, Mr. William F. Haslam, Mr. C. B. Lockwood, Mr. W. Arbuthnot Lane, Mr. Bilton Pollard, Mr. C. A. Ballance, Mr. J. Bland-Sutton; with Professor Arthur Keith (conservator), Mr. Victor G. Plarr (librarian), Mr. Frederic G. Hallett (secretary of the Conjoint Examining Board), and Mr. S. Forrest Cowell (secretary). There were no formal speeches, but the President spoke a few words of welcome to the Lord Mayor, who briefly responded. After the dinner the company proceeded to the Council Room, where there was a special show of specimens from the College Museum on view.

A COURSE of four lectures on Heredity Considered from the Point of View of Physiology and Pathology will be delivered by Dr. F. W. Mott, F.R.S., in the Physiological Laboratory, King's College, London, at 4.30 P.M., on the following Mondays: May 20th, June 3rd, 10th, and 17th. These lectures are free to medical men on presentation of their visiting cards.

THE Cavendish lecture of the West London Medico-Chirurgical Society will be delivered this year by Professor Karl Pearson, F.R.S., at the Kensington Town-hall on June 21st, the subject being Darwinism; Medical Progress and Eugenics.

Dr. Harold Robert Dacre Spitta has been appointed Bacteriologist to Queen Alexandra's Household.

ERRATUM.—We regret that in some of the earlier copies of our last issue, in the article on p. 1241, by an accident of the printers the letter "M" was dropped from the word "Morphine" in the quotation of the advertisement.

A NOTE ON THE HEATING OF SCHOOL-ROOMS BY CLOSED SLOW-COMBUSTION STOVES BURNING COKE.

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AND
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IT has been asserted by many authorities that when coke is burned in cast-iron stoves used for heating rooms an appreciable amount of carbon monoxide may be found in the atmosphere. It has been stated that the carbon monoxide produced by imperfect combustion inside the stove may pass into the room owing to the permeability of hot metal (Lewis and Balfour, Lyster, Allan and Farrar), or that carbonic acid gas may be converted into carbon monoxide on coming into contact with the hot external surface of the stove, or that the carbon contained in the cast-iron may become to some extent oxidised (Hamer).

In a very considerable number of schools slow-combustion stoves are used for heating purposes. The modern cast-iron stove is, however, usually lined with fire-clay with the exception of the top. We endeavoured to ascertain whether under varying conditions a stove of the modern type can give rise to an appreciable degree of vitiation of atmospheric purity owing to the formation or escape of carbon monoxide gas.

For the purpose of the experiments stoves were selected with long internal flues, and during part at least of each experiment it was arranged to have the top of the stove red-hot. It was found that with a fire of this degree of intensity the flue was also made red-hot at the union with the stove and for a distance of some 12 inches. The method adopted to estimate the amount of carbon monoxide was a modification of that described by Nicloux.[1]

The air is drawn through the apparatus by means of

[1] Comptes Rendus, 1898, vol. 126, pp. 746-749.

an aspirator, and the volume of the air is determined in the usual way—namely, by measuring the volume of aspirator water run off. The air is first drawn through a glass wool filter which removes dust. The dust-free air passes through two towers: one containing pumice moistened with concentrated sulphuric acid which serves to remove hydrocarbons; the other containing solid potash to remove acid fumes from the first tower. The air is then drawn through a U-tube containing iodine pentoxide. This tube is immersed in a beaker of glycerine, which is heated on a sand bath by means of a spirit lamp and kept at a temperature of 130°–160°C. In this tube the carbon monoxide reacts with the iodine pentoxide, forming iodine and carbon dioxide: $5CO+I_2O_5 = 5CO_2+2I$.

Both the carbon dioxide and the iodine are produced quantitatively and either may be estimated. In the experiments the iodine was estimated. The method adopted at first was to pass the iodine through potassium iodide solution, which was then titrated with N/1000 thiosulphate solution. It was found, however, that with such dilute thiosulphate and with such small quantities of iodine the titration varied a little according to the amount of iodide present. The method finally used was to allow the volatilised iodine to pass through chloroform, and then to match the colour produced by a chloroformic solution of iodine of known strength. Two chloroform tubes are employed, the second being introduced in order to make sure of the complete absorption of the iodine. It was found advisable to introduce an asbestos sheet between the spirit lamp and the chloroform tubes.

It should be mentioned that the iodine pentoxide is extremely sensitive, not only to carbon monoxide but to organic matter as well, so that the presence in the air of organic suspended matter, dust, &c., previous to its entry into the iodine pentoxide tube, would raise the figure for the calculated carbon monoxide. All the experimental errors, in fact, lie on the side of over-estimation, and when the amount found is only small it should be regarded as the outside limit rather than as a figure for the actual amount present. Each actual estimation followed a long series of "control" experiments with pure air, and during the last of these the apparatus was kept running for a consecutive period of at least 48 hours.

Series I.—These estimations were made under abnormal conditions of ventilation and in the absence of the school children. A room heated by an iron stove with an internal flue 8 ft. long was selected, and all windows, doors, and ventilators were kept closed. The stove was lighted in the early morning, and the investigation, which began at mid-day, was directed to ascertain the maximum amount of carbon monoxide which could be produced by the stove. The fire was fed with as much coke as possible, and during the experiments the top of the stove and the proximal end of the flue were red-hot. 1300 c.c. of air collected in the vicinity of the stove were drawn through the apparatus at the rate of 500 c.c. per hour. The amount of iodine liberated gave a tinted solution in chloroform, which, was rather overmatched by one-third of the chloroformic solution of equal volume obtained from one-half of 1 c.c. N/1000 iodine solution. The tint was so faint that the limit for which the method can be used was obviously reached. If we take 0·15 c.c. N/1000 iodine solution (approximately one-third of 0·5 c.c.) as representing the amount of iodine liberated by the carbon monoxide, the volume of the gas would be 0·00825 c.c. at normal temperature and pressure, or 0·00925 c.c. at the temperature of the room at the time. The volume of air being 1300 c.c., this gives 0·00071 per cent., or 1 part in 140,000. A series of estimations of the amount of carbon dioxide by Pettenkofer's method during the latter part of the experiment gave a figure of 0·1√2 per cent.

Series II.—These experiments were carried out in a smaller class-room heated with a closed stove with an internal flue 6 ft. long under the same general conditions as Series I. The tint produced by the liberation of iodine in chloroform was only just discernible and the amount could not have exceeded 1 part in 250,000. Amount of carbon dioxide 0·052 per cent.

Series III.—The experiments were repeated in a third school under the same conditions as Series I. and II., and the liberated iodine was estimated colorimetrically. Two litres of air were aspirated through the apparatus and 5 c.c. of N/10,000 iodine solution were required. This amount of iodine would be liberated by 0·0275 c.c. carbon monoxide at 0° C. equal to 0·03 c.c. at the temperature of the room. This amounts to 0·0015 per cent., or, approximately, 1 part in 66,000. This estimation was repeated with concordant results. The carbon dioxide figure was 0·115 per cent.

Series IV.—In these experiments estimations were made during school hours in a room occupied by a large class. The ventilation of the room was reduced to the minimum—that is to say, only sufficient fresh air was admitted to the room to prevent discomfort to the children. Samples of air were drawn into the apparatus from the immediate vicinity of the stove. The length of the internal flue was 10 ft. The amount of carbon monoxide present during the conditions arranged did not exceed 1 part in 140,000 parts of air. The carbon dioxide reading (the mean of a large number of records) was 0·18 per cent.

Series V.—A slow-combustion stove was fitted up in the basement of a convenient building. The flue was connected with the stove, but the joints were not sealed—the different lengths of piping being fitted together as accurately as possible without any packing. All ventilators except the chimney receiving the terminal length of flue were kept closed and the stove was kept burning steadily for four hours before the estimations were made. Coke was the fuel used, and the cover of the stove and the proximal 12 inches of flue were at a dull red heat at the time of and during the experiments. The mean carbon monoxide reading was (allowing for necessary corrections for temperature) for the series of estimations 1 part in 30,000 parts (by volume) of air at normal temperature and pressure. At the close of the experiments a few crystals of calcium oxalate were heated in a platinum dish. The carbon monoxide produced caused the liberation of a violet cloud of free iodine in that part of the apparatus beyond the iodine pentoxide tube—although the observers were not inconvenienced by the relatively small volume of gas present in the atmosphere—a striking proof of the exceedingly sensitive nature of the reagent used.

Summary.

Our experiments prove that under certain conditions it is possible to detect in the air of rooms heated by slow-combustion stoves a very small amount of carbon monoxide gas. The maximum amount even under such favourable conditions for the accumulation of the poisonous gas as existed in Series I., II., and III. of our estimations—namely, the overheating of the stove and the absence of ventilation—did not exceed 1 part in 66,000.

It is true that carbon monoxide is very poisonous, and that, even if only small amounts are present in the air, headache and loss of flesh may occur in persons exposed to the contaminated atmosphere for long consecutive periods. In the *Journal of Physiology* (1886) Professor Haldane states that toxic symptoms were shown by persons when the carbon monoxide figures reached 1 part in 2000.

It is certain that the amounts found by us are so small as to be negligible as a possible cause of ill health—since we found that under no circumstances of insufficient ventilation, &c., did the amount of carbon monoxide exceed 1 part in 30,000. In fact, the low readings of carbonic acid present in the air of unventilated stove-heated rooms establish the fact that the aspirating effect of the flue effectually causes the removal from the stove of the products of combustion. It is interesting to note further that, although the investigators were personally exposed for considerable periods to a temperature of about 90° F. in unventilated class-rooms, we felt no bad effects that might be attributed to the stoves.

PHARMACEUTICAL SOCIETY.—A reception similar in character to that which was held in May last year in celebration of the seventieth anniversary of the Pharmaceutical Society took place at the Holborn Restaurant on the evening of May 8th. The guests, among whom were included pharmacists from all parts of Great Britain, were received by Mr. C. B. Allen, President of the society, and Mrs. Allen. Gatherings of this kind afford such an excellent opportunity for pharmacists to meet and exchange views that similar arrangements will probably be made annually. During the first few days of the present week the principal officers of the Pharmaceutical Society were in attendance at the society's house to receive chemists from the country, and on Wednesday afternoon a meeting of delegates from local associations and other pharmacists was held in the society's examination hall for the purpose of appointing an English Pharmaceutical Committee on Insurance.

THE LONDON COUNTY COUNCIL AND MEDICAL AFFAIRS.

The Inebriates Bill, 1912.

THE Parliamentary Committee, in a report to the London County Council on May 7th, dealt with the provisions of the Inebriates Bill, 1912, as they will affect local authorities. The committee set forth the principal clauses of the measure, observing that the obligation imposed on local authorities to provide for the reception and maintenance of persons in their areas committed to certified inebriate reformatories was a new and important one. The conclusions of the various committees of the Council affected by the Bill were summarised by the Parliamentary Committee.

The Public Control Committee pointed out that the provisions of the Bill relative to the manner of dealing with inebriates were founded mainly on the recommendations of the Departmental Committee of 1908, and the Council had approved generally of the conclusions of that committee.[1] The Bill appeared to have been carefully drawn with a view to dealing with inebriates of both classes by a graduated mode of procedure beginning with measures of the mildest character, the stringency of which was not increased until those milder methods had proved ineffective, and the Bill in this respect should receive the support of the Council. In the opinion of the committee, however, it was very undesirable that there should be any obligation on local authorities to provide reformatory accommodation for inebriates, and this power should be permissive only. An effort should be made to obtain some indication of the amount which it was proposed the Treasury should contribute towards the expense of persons committed to certified inebriate reformatories. Since the passing of the Inebriates Act, 1898, the Government had reduced its contribution from 10*s.* 6*d.* to 8*s.* 6*d.* a week towards the maintenance of each person committed to a reformatory.

The Finance Committee remarked that the effect of the Bill would be to bring under treatment a great number of persons who could not be dealt with at present, and that a serious increase of responsibility on the part of county councils was involved by the proposals. The Departmental Committee recommended that the State should provide at its own cost for the accommodation and maintenance of all inebriates committed by the courts, and that existing reformatories should be taken over by the State. The London County Council had urged this point upon the Government by deputation, and the Home Secretary, in foreshadowing legislation on the subject, indicated that assistance from the Treasury might be reasonably expected. The Bill now put forward left the financial position as between the local rates and the Imperial Exchequer in the same state as before, the provision of the Act of 1898, giving the Treasury a general power to contribute, being re-enacted in the Bill. In view of the fact that the contributions hitherto made by the Treasury had been considered quite inadequate, the proposal to leave the subject as at present was very unsatisfactory. The Finance Committee did not agree with the suggestion of the Public Control Committee that the local authorities should receive an assurance from the Government as to the exact amount it would be prepared to contribute, but was of opinion that the Council should adhere to the position it had hitherto taken up, and that the Government should be pressed to allow grants to local authorities equivalent to the whole of the reasonable and necessary cost of the accommodation and maintenance of all inebriates committed from the courts. The Finance Committee also drew attention to the fact that notwithstanding the proposal to make the provision of inebriate reformatories compulsory on county councils, the Bill re-enacted the powers given by the Act of 1898 to the Home Secretary, through the Prison Commissioners, to continue existing and establish new reformatories. It seemed to indicate a possible alternative line of action and further provided that, in the event of a board of commissioners being constituted under any other Act of Parliament to exercise powers with respect to the supervision, &c., of the mentally defective, the Secretary of State might by order transfer to such board or commissioners the powers and duties of the Prison Commissioners under the section. This appeared to suggest the intention of the Government to take up the subject of the report of the Royal Commission on the Feeble-minded, which Commission recommended the appointment of a central board to supervise the local administration of services relating to feeble-minded persons, including inebriates.

[1] THE LANCET, April 29th, 1911, p. 1164.

The Parliamentary Committee submitted the following recommendation :—

That the Council, whilst approving of the provisions of the Inebriates Bill, 1912, with respect to the method of dealing with inebriates, is of opinion *that no part of the cost of providing the accommodation for, and maintenance of, inebriates committed by the courts, should be borne by the local authorities*, and that an amendment be sought to the measure to give effect to this view.

Mr. A. J. SHEPHEARD moved an amendment to substitute for the words in italic the words :—

That as regards expenses in connexion with the erection of inebriate reformatories reasonable terms should be arranged with the Government.

He said that if this were a purely national question the Council might fairly ask the Government to bear the whole expense, but it was also a local matter and local authorities must expect to bear a part of the cost.

Mr. P. E. PILDITCH, chairman of the Parliamentary Committee, said that the Council was already charged with an expense of some thousands a year for the maintenance of inebriate retreats ; the committee was anxious to secure that inebriates committed to inebriate reformatories, who were dealt with at present under the penal law, at the expense of the taxpayers, should not become chargeable in future to the rates. He agreed that the committee should be in a position to negotiate with the Government, and he was willing to accept an amendment securing that.

Mr. T. C. E. GOFF pointed out that as the Council already found £12,000 a year in respect of inebriates it could not very well say to the Government that it would not find any of the money in future.

Mr. EDWARD SMITH said that the Council would be accepting a grave responsibility if it took a hostile attitude.

On being put, the amendment was lost by 44 votes to 29, but a further amendment was unanimously agreed to :—

That no part of the cost of inebriates committed by the courts to certified inebriate reformatories, should be borne by the local authorities.

A second resolution was also approved as follows :—

That the Council is prepared, as regards the expense of the erection and maintenance of inebriate retreats, to enter into reasonable arrangements with the Government.

Coroner for the South-Western District of London.

The Public Control Committee reported with regard to the appointment of a coroner for the South-Western District of London in place of the late Mr. John Troutbeck. The committee stated that the area over which Mr. Troutbeck exercised jurisdiction, although practically a continuous area, comprised three distinct districts in respect of which three different bodies, including the Council, exercised the right of appointment of coroner, although in each case the salary was paid by the Council. The following table gave particulars of the three districts in question :—

District.	By whom coroner appointed.	Salary assigned to district.	Basis of salary.	Average number of inquests held when the salary was fixed.	Area comprised in district.
South-Western.	The Council.	£ *s.* *d.* 798 4 2	£ *s.* *d.* 1 1 0 an inquest.	760¼	Metropolitan borough of Battersea and parts of the metropolitan boroughs of Wandsworth and Lambeth.
Westminster City and Liberty.	Dean and Chapter of Westminster.	564 12 0	1 10 0 an inquest.	376¾	City of Westminster (except the Savoy).
Duchy of Lancaster Liberty (Savoy portion).	The Crown.	4 0 0	—	—	The Savoy.

It would be gathered that the total salary paid to the late coroner was £1366 16s. 2d. The Council had decided, in connexion with the appointment of a coroner to the Central District in the place of the late Dr. Danford Thomas, not to adhere to the practice of calculating the coroner's salary upon the average number of inquests, but to fix a definite amount as the salary.[2] The committee thought this course should be adopted in the present case, and it had fixed the salary of the coroner for the three districts in question at £1150 a year, apportioned as follows: South-Western District, £786; Westminster City and Liberty, £360; the Savoy, £4. This amount would include the expenses, estimated at £200, of the office, comprising any payment to a deputy coroner, the provision of office accommodation, clerical assistance, travelling expenses, stationery, &c. The Dean and Chapter of Westminster agreed that in the public interest it was desirable that the same coroner should be appointed for the South-Western District and the Liberty of Westminster, and had agreed, as had the Chancellor of the Duchy of Lancaster, to appoint the candidate selected by the Council to the vacancy under their jurisdiction.

The vacancy had been duly advertised and 38 candidates had offered themselves for the appointment. In accordance with standing orders the committee submitted three names—those of Dr. R. L. Guthrie, Dr. S. Ingleby Oddie, and Mr. R. Henslowe Wellington—but specially recommended Dr. Oddie as the candidate best qualified for the appointment. Dr. Oddie had had considerable experience both as a barrister and as a medical practitioner, while, as deputy coroner for the Western District of London since 1903 he had acquired considerable experience and knowledge of the duties of coroner.

The Council postponed its decision for a report as the name of the suggested candidate has not yet been submitted formally to the Dean and Chapter of Westminster.

Contributions to Hospitals and Convalescent Homes.

The Council decided to continue the arrangement whereby £500 a year are set aside for contributions to hospitals, convalescent homes, or similar institutions in which employees of the Council receive treatment.[3] The General Purposes Committee stated that a scheme of administration had been adopted whereby speedy admission to sanatoriums or convalescent homes was obtained for employees in need of such treatment. It was impossible to say what the expenditure in any year would be, as this depended upon the number of persons sent to sanatoriums and convalescent homes, in which direction the bulk of the expense was incurred. As to hospitals, to which acknowledgment was made by means of grants at the end of each year of the valuable services rendered without charge, it was impossible for the Council's grants to bear any relation to the cost of the treatment of its employees, nor, in the opinion of the committee, was this desirable, as the employees had a claim in common with other citizens to treatment without payment.

MEDICINE AND THE LAW.

Juries and the Question of Insanity.

THE case of William Tebbitt, indicted for the attempted murder of Mr. Leopold de Rothschild, came before Mr. Justice Coleridge at the recent sessions at the Old Bailey, and illustrated in a striking manner the unsatisfactory nature of the machinery provided by the law for testing and deciding the important and sometimes difficult question of the mental condition of a prisoner. As is well known, the question of whether a person who has committed an act is to be held responsible for it as a convicted criminal, or is to be treated as a person not legally responsible, is usually raised in one of two ways. He may be in such a condition mentally that it would be unjust to call upon him to plead, a condition in which he would not be competent to defend himself or to instruct anyone else to act for him. For such cases, which usually resolve themselves into what may be called cases of admitted or obvious insanity, it is usual for evidence to be laid before a jury to the effect that the prisoner is not in a mental condition to understand the meaning of the proceedings that are being taken or to instruct counsel, and upon a verdict being given in accordance with such evidence the prisoner is ordered to be detained during the King's pleasure. More frequently, however, the prisoner is put upon his trial, particularly if counsel is briefed for his defence, and in such circumstances he pleads "not guilty" almost as a matter of course, evidence is given proving the facts alleged against him, which may or may not be in dispute, and as the evidence with regard to these is usually not contested, at any rate, in its main outline, the interest centres round the question whether when the prisoner committed the act, which no one doubts he did commit, he was in such a state of mind that he came within the legal definition of irresponsibility. In some cases there is not much difficulty with regard to this. It is the duty of the Crown to make out its case upon the facts, and it is for the defence to allege and prove insanity, but where little doubt exists there is no undue resistance on the part of the prosecution; and, indeed, the prosecution usually assists the prisoner's counsel whenever it is clearly just that the defence of insanity should prevail. On other occasions there may be a serious conflict of evidence owing to the doubtful nature of the case, or the issue may be raised and contested owing to a desire on the part of the prisoner or his relatives to make out that he is insane when he really ought to be punished as a criminal. In any case, however, the duty of weighing and deciding upon medical testimony, relating to a question of a purely medical character, falls upon a jury of laymen directed by a judge, who is a lawyer and not a medical man. In the case of Mr. Leopold de Rothschild's assailant, owing to the line taken by a jury and the action of an insane man, events followed an unusual, if not an unprecedented, course, for the prosecution called as witnesses Dr. T. B. Hyslop and Dr. S. R. Dyer, the medical officer of Brixton Prison, who agreed that the prisoner was a dangerous homicidal lunatic, suffering from delusions which caused him to regard Mr. de Rothschild with animosity and which would prevent him from giving intelligent instructions for his own defence. This condition was disputed by counsel briefed on the prisoner's behalf, who, however, although he referred to another medical man having examined the prisoner by his wish, called no evidence. The jury then, instead of finding in accordance with the only evidence before them that the prisoner was insane, declared him fit to plead, and on the following day he was put up to take his trial. It was then that an unexpected and anomalous situation was created, for to the surprise of those concerned, including his own counsel, he pleaded "Guilty." This left Mr. Justice Coleridge in the position of having to sentence a man to imprisonment for attempted murder whom, as he said, he and everyone who had listened to the story of the case knew to be not responsible for his actions. In the circumstances he passed upon him the sentence of 20 years' penal servitude, which he would have inflicted upon a man whom he believed to be sane, intimating at the same time that it was more or less a formal proceeding, and that he had no doubt that upon the prisoner's condition being further inquired into proper steps would be taken for his detention in the manner demanded by his mental condition. In such a case the law adapts itself to circumstances, and no doubt a just result is arrived at, the question of mental condition and criminal responsibility being ultimately decided by medical expert opinion. It would presumably have been so decided also if the prisoner had pleaded "not guilty" and had been convicted by a jury which declined to add that he was insane. If this is so, however, it seems superfluous rather than necessary to submit the question of sanity to the jury at all.

Legal Distinction between Medical Practice and Trade.

Mr. Justice Phillimore and Mr. Justice Bray, sitting in bankruptcy, recently heard an appeal of a somewhat important character in which the question at issue depended upon the distinction between medical practice and mercantile, or commercial, business with regard to what may constitute an act of bankruptcy. The respondent, a medical man in practice, finding his affairs involved, addressed to his creditors through his solicitor a letter which asked them to meet at the office of the latter. This notice contained the statement that the medical practitioner "has consulted me with reference to his financial position, and I shall be glad if you will attend a meeting of his creditors on Friday

[2] THE LANCET, Oct. 15th, 1910, p. 1163.
[3] THE LANCET, July 24th, 1909, p. 245.

next." At the meeting a scheme of payment was put forward which included the retention by the debtor of an annual sum from his professional earnings to live upon and the devotion of the balance of his income to the payment of his creditors. This scheme was rejected, and the debtor, refusing the suggestion that he should file a petition in bankruptcy, intimated his intention to continue as before. After this meeting a creditor presented a bankruptcy petition against the debtor in the county court, allegirg as an act of bankruptcy the letter convening the meeting on the ground that it amounted to notice that he had suspended or was about to suspend payment of his debts within the meaning of Section 4, Subsection 1 H., of the Bankruptcy Act, 1883. The registrar dismissed the petition on the ground that the transaction did not constitute an act of bankruptcy, and this decision was upheld by the two judges of the High Court who heard the appeal against it. Mr. Justice Phillimore in his judgment drew the distinction referred to above between the trader and non-trader. He referred to the medical practitioner as a non-trader engaged in a lucrative profession and earning money by his skill. In the case of a non-trader he pointed out that debts became due when they were contracted, but they might be, and sometimes were, paid some time afterwards, that time varying in different cases according to the amount of credit enjoyed by the debtor. In the case of a trader credit was given but for stated periods, so that payments were periodical and methodical and so that the failure to meet the obligation to pay at the proper time was a definite suspension of payment. His lordship did not consider that a notice, such as that described, sent out by a medical practitioner would convey to the person receiving it that his debtor would stop paying and cease to carry on his profession.

The Superannuation Allowance of a Public Vaccinator.

The case of Lawson *v.* The Marlborough Guardians recently tried in the Chancery Division by Mr. Justice Neville raised the question whether a public vaccinator holding also the position of district medical officer was in his capacity of public vaccinator a person in the employ of the defendants under Section 3 of the Poor-law Officers Superannuation Act, 1896, and so entitled to have his emolument as public vaccination officer included in the computation of his superannuation allowance upon his simultaneous retirement from both posts. It was admitted that the plaintiff was entitled to a superannuation allowance in respect of his service as medical officer. His appointment had been made by separate contracts in respect of the two offices held, by which he took £100 per annum as salary with such fees and allowances as were attached to the two offices at the time of his entering upon the contracts. The question at issue turned upon the construction of the Act of 1896 and of Section 3 of the Vaccination Act, 1867, and of other earlier statutes. Mr. Justice Neville held that upon the construction of the Acts the plaintiff was not, as public vaccinator, a person in the employ of the defendants within the meaning of the Act of 1896. His contract as public vaccinator placed him in the position of a person who had contracted to render specified services for specified payments, but did not constitute an engagement of service, as did that entered into by him in becoming medical officer. The plaintiff was therefore held not to be entitled to include his fees as public vaccinator among the emoluments on which the amount of his superannuation allowance must be calculated.

FORTHCOMING HEALTH CONFERENCE AND EXHIBITION.

WE announced last week that this Conference would be held at the Royal Horticultural Hall and the adjoining Institute from June 23rd to 27th, under the patronage of H.R.H. Princess Christian. The patrons, numbering about a hundred, include the Archbishop of York, the Countess of Aberdeen, and many members of the medical profession, including Sir Dyce Duckworth, Sir Francis Champneys, Sir William Bennett, and Director-General Sir W. Launcelot Gubbins, A.M.S. The programme is being arranged by Miss R. V. Gill, the organising secretary, in coöperation with the National Health Society, together with a consultative committee, consisting of the following members: Professor H. R. Kenwood, Lady Balfour of Burleigh, Mrs. John Talbot, Mr. H. W. Armit, Miss Eden, Mr. F. E. Fremantle, Miss Joseph, and Dr. F. N. Kay Menzies. The papers promised and discussions arranged for include the following:—How to Conduct an Infant Consultation: Dr. Eric Pritchard; discussion: Dr. J. F. J. Sykes, Dr. Naish, Dr. Sidney Davies, and others. Crèches: Muriel, Viscountess Helmsley. Tuberculosis and the Child: Dr. T. N. Kelynack. Early Notification of Births: Dr. A. A. Mussen. The Prevention of Deafness in Children: Mr. P. Macleod Yearsley. School for Mothers: Miss Bibby. Housing, Urban and Rural: Professor Kenwood; discussion: Dr. L. C. Parkes, Mr. A. W. Harris, Dr. R. King Brown, Mr. D. L. Thomas, Mr. A. G. R. Foulerton, Mr. Fremantle, Dr. W. F. Corfield, Dr. W. Butler, and Dr. J. F. Butler-Hogan. The Importance of Natural Feeding: Dr. H. Scurfield and Dr. Sykes. The Coöperation of Voluntary Health Promoting Agencies with the Public Health Department: Mrs. Bernard Drake. The Necessity of further Manual Training in Public Elementary Schools: Dr. C. B. Moss-Blundell. The Teaching of Practical Domestic Economy in Schools: Dr. A. Banks Raffle. A discussion on the Needs for a Hospital for the Middle Class at Moderate Fees: Mr. T. Launcelot Archer and Mr. Armit. Dr. W. A. Chapple, M.P., and Dr. H. Corner will deal with the Feeble-minded. Miss Evelyn Fox will speak about the Princess Christian Farm Colony for the Permanent Care of the Feeble-minded. Eugenics and National Health: Dr. C. W. Saleeby and Dr. Lidbetter. Why Babies Die (popular lecture), by Mrs. Barnes, of the London County Council. The Health of Girls (popular lecture), by Miss Florence Stacpoole. Healthy Homes and Domestic Hygiene (popular lecture).

The exhibition in connexion with the Conference will include a department for scientific and social exhibits and a department for trade exhibits. Among the former, mention may be made of the Model Infant Consultation of the St. Marylebone Dispensary, which was shown in the British Section of the International Hygiene Exhibition at Dresden last year. A large number of other important exhibits have also been promised, and the value of the exhibition will be enhanced by contributions from numerous social organisations which are doing good work in the promotion of health among the community.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN the 95 largest English towns having an estimated population of 17,639,816 persons in the middle of this year, 8546 births and 4715 deaths were registered during the week ending May 4th. The annual rate of mortality in these towns, which had been 14·0, 14·5, and 14·1 per 1000 in the three preceding weeks, further declined to 13·9 per 1000 in the week under notice. During the first five weeks of the current quarter the mean annual death-rate in the 95 large towns averaged 14·1 per 1000, and was 0·5 per 1000 in excess of the average death-rate recorded in London during the same period. The annual death-rates in the several towns last week ranged from 6·2 in Edmonton and in Southend-on-Sea, 6·4 in Wimbledon, 6·8 in Gillingham and in Eastbourne, and 7·2 in Enfield, to 21·0 in Sunderland, 21·3 in Dudley, 22·0 in West Bromwich, 22·6 in Wigan, and 25·2 in Oldham.

The 4715 deaths from all causes in the 95 towns were 49 fewer than the number in the previous week, and included 404 which were referred to the principal epidemic diseases, against 424 and 400 in the two preceding weeks. Of these 404 deaths from the principal epidemic diseases, 138 resulted from measles, 132 from whooping-cough, 65 from infantile diarrhœal diseases, 37 from diphtheria, 17 from enteric fever, and 15 from scarlet fever, but not one from small-pox. The mean annual death-rate from these diseases last week was equal to 1·2 per 1000, against 1·3 and 1·2 in the two preceding weeks. The deaths attributed to measles, which had been 121, 164, and 149 in the three preceding weeks, declined to 138 last week, and caused the highest annual death-rates of 1·6 in Salford, 1·9 in Merthyr Tydfil, 2·0 in Wakefield, 2·1 in Warrington, 2·3 in Blackburn, 3·4 in Cardiff, and 4·9 in Rotherham. The deaths referred to whooping-cough, which had been 146, 149, and 146 in the three preceding

weeks, fell to 132 last week; the highest annual death-rates from this disease were 1·8 in Oldham, 2·1 in Smethwick, 2·3 in West Bromwich, and 2·8 in Stockport. The fatal cases of diarrhœa and enteritis among children under 2 years of age, which had been 50, 40, and 44 in the three preceding weeks, rose to 65 last week, and included 24 in London, 9 in Liverpool, 4 in Birmingham, and 3 each in West Ham, in Bootle, and in Cardiff. The deaths attributed to diphtheria, which had been 39, 31, and 35 in the three preceding weeks, were 37 last week; 4 deaths were recorded in London, 4 in Salford, and 3 each in Portsmouth, in Liverpool, and in West Hartlepool. The deaths referred to enteric fever, which had been 13, 17, and 10 in the three preceding weeks, rose to 17 last week, and included 2 in London, 2 in Manchester, and 2 in Barrow-in-Furness. The fatal cases of scarlet fever, which had been 16, 22, and 15 in the three preceding weeks, were again 15 last week; 4 deaths were registered in London, 2 in Nottingham, and 2 in Preston.

The number of scarlet fever patients under treatment in the Metropolitan Asylums and in the London Fever Hospital, which had steadily decreased from 1384 to 1223 in the seven preceding weeks, further fell to 1214 on Saturday last; 158 new cases of this disease were admitted to these institutions during the week, against 119, 142, and 144 in the three preceding weeks. These hospitals also contained on Saturday last 979 cases of diphtheria, 655 of whooping-cough, 313 of measles, and 44 of enteric fever, but not one of small-pox. The 1189 deaths from all causes recorded in London were 35 in excess of the number in the previous week, and were equal to an annual death-rate of 13·7 per 1000. The deaths referred to diseases of the respiratory system, which had been 227, 245, and 223 in the three preceding weeks, were 226 last week, and were 1 below the number in the corresponding week of last year.

Of the 4715 deaths from all causes in the 95 towns, 177 resulted from different forms of violence and 377 were the subject of coroners' inquests. The causes of 33, or 0·7 per cent., of the deaths registered last week were not certified either by a registered medical practitioner or by a coroner after inquest. All the causes of death were duly certified in London and its 14 suburban districts, in Manchester, Leeds, Bristol, Bradford, Hull, Newcastle-on-Tyne, Portsmouth, and in 54 other smaller towns. The 33 uncertified causes of death last week included 7 in Birmingham, 4 in Grimsby, 3 in Liverpool, and 2 each in Preston, in Barrow-in-Furness, and in Sunderland.

HEALTH OF SCOTCH TOWNS.

In the 18 largest Scotch towns, with an aggregate population estimated at 2,182,400 persons in the middle of this year, 1266 births and 652 deaths were registered during the week ending May 4th. The annual rate of mortality in these towns, which had been 16·1 and 16·2 per 1000 in the two preceding weeks, declined to 15·6 per 1000 in the week under notice. During the first five weeks of the current quarter the mean annual rate of mortality in these Scotch towns averaged 16·1 per 1000, and was 2·0 per 1000 in excess of the rate recorded in the 95 large English towns. The annual death-rates in the several Scotch towns last week ranged from 9·2 in Falkirk, 9·9 in Partick, and 10·3 in Clydebank, to 17·4 in Dundee, 18·1 in Kirkcaldy, and 19·9 in Greenock.

The 652 deaths from all causes were 27 fewer than the number in the previous week, and included 75 which were referred to the principal epidemic diseases, against numbers decreasing from 82 to 65 in the three preceding weeks. Of these 75 deaths, 49 resulted from measles, 10 from infantile diarrhœal diseases, 9 from whooping-cough, 4 from diphtheria, and 3 from scarlet fever, but not one from enteric fever or from small-pox. These 75 deaths from the principal epidemic diseases were equal to an annual death-rate of 1·8 per 1000, or 0·6 per 1000 above that recorded in the 95 large English towns. The deaths attributed to measles, which had declined from 49 to 32 in the three preceding weeks, rose to 49 last week, and included 14 in Glasgow, 9 in Edinburgh, 8 in Dundee, 6 in Paisley, and 5 in Coatbridge. The deaths of infants under two years of age referred to diarrhœa and enteritis, which had been 7, 3, and 12 in the three preceding weeks, were 10 last week; 3 deaths occurred in Glasgow, 3 in Dundee, and 2 in Edinburgh. The fatal cases of whooping-cough, which had been 18 and 12 in the two preceding weeks, further declined to 9 last week, and included 3 in Glasgow and 3 in Edinburgh. The deaths referred to diphtheria, which had declined from 9 to 4 in the three preceding weeks, were 4 again last week. The 3 fatal cases of scarlet fever showed but little variation from the numbers in recent weeks, and comprised 2 in Greenock and 1 in Glasgow.

The deaths attributed to diseases of the respiratory system, which had averaged 105 in the four preceding weeks, slightly rose to 109 in the week under notice; and 22 deaths resulted from different forms of violence, against numbers rising from 17 to 27 in the four preceding weeks.

HEALTH OF IRISH TOWNS.

In the 22 town districts of Ireland, having an estimated population of 1,157,014 persons in the middle of this year, 663 births and 449 deaths were registered during the week ending May 4th. The annual rate of mortality in these towns, which had been 23·3 and 20·3 per 1000 in the two preceding weeks, slightly fell to 20·2 per 1000 in the week under notice. During the first five weeks of the current quarter the mean annual rate of mortality in these Irish towns averaged 21·1 per 1000; in the 95 large English towns the mean annual death-rate during the same period did not exceed 14·1; while in the 18 Scotch towns it was equal to 16·1 per 1000. The annual death-rates in the several Irish towns last week were equal to 25·9 in Dublin (against 13·7 in London), 17·9 in Belfast, 21·1 in Cork, 12·7 in Londonderry, 20·4 in Limerick, and 15·2 in Waterford, while in the remaining 16 towns the mean rate was equal to 14·5 per 1000.

The 449 deaths from all causes were 1 fewer than the number in the previous week, and included 49 which were referred to the principal epidemic diseases, against 42 and 45 in the two preceding weeks; of these 49 deaths, 15 resulted from measles, 15 from whooping-cough, 10 from diarrhœal diseases, 5 from diphtheria, and 4 from scarlet fever, but not one from enteric fever or from small-pox. These 49 deaths from the principal epidemic diseases were equal to an annual death-rate of 2·2 per 1000; the death-rate from these diseases last week did not exceed 1·2 in the 95 large English towns, while in the 18 Scotch towns it was equal to 1·8 per 1000. The deaths attributed to measles, which had been 14, 13, and 16 in the three preceding weeks, were 15 last week, and were all recorded in Dublin. The deaths referred to whooping-cough, which had been 7 and 10 in the two preceding weeks, further rose to 15 last week, and included 8 in Belfast and 4 in Dublin. The fatal cases of diarrhœa and enteritis, which had been 10 and 13 in the two preceding weeks, fell to 10 last week, and included 8 of infants under two years of age; 4 deaths were registered in Dublin and 4 in Belfast. The 5 deaths attributed to diphtheria were slightly in excess of the average in recent weeks and comprised 4 in Dublin and 1 in Cork. Three of the 4 fatal cases of scarlet fever were recorded in Dublin and 1 in Belfast.

The deaths referred to diseases of the respiratory system, which had decreased from 135 to 104 in the three preceding weeks, further declined to 102 in the week under notice. Of the 449 deaths from all causes in the Irish towns 143, or 32 per cent., occurred in public institutions, and 5 resulted from different forms of violence. The causes of 16, or 3·6 per cent., of the total deaths were not certified either by a registered medical practitioner or by a coroner after inquest; in the 95 large English towns the proportion of uncertified causes of death last week did not exceed 0·7 per cent.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

THE following appointments have been notified:—Staff-Surgeons: A. T. Gailleton to the *Victory*, and O. Mills to the *Halcyon*. Surgeon: R. Willan to the *Vivid*, additional, for Plymouth Hospital, and as Instructor of Sick Berth Staff.

ROYAL ARMY MEDICAL CORPS.

Lieutenant-Colonel Robert R. H. Moore retires on retired pay (dated May 8th, 1912).

Lieutenant-Colonel B. M. Skinner, M.V.O., has been appointed to officiate as Commandant at the Royal Army

Medical College. Lieutenant-Colonel J. S. Green has been selected for the increased rate of pay under Article 317 of the Royal Warrant. Lieutenant-Colonel C. H. Melville has been placed under orders for service abroad during the coming trooping season. Lieutenant-Colonel W. S. Dowman has been transferred from Northampton to Kingston-on-Thames. Lieutenant-Colonel T. Daly, commanding the Military Hospital at Peshawar, has been granted six months' general leave of absence.

Major C. B. Martin will be transferred from the Royal Victoria Hospital, Netley, to the Irish Command from June 1st. Major W. J. Taylor has arrived home for duty from West Africa. Major C. W. Reilly has been appointed to the Irish Command. Major F. W. Begbie has been placed under orders for service in India during the coming trooping season. Major J. Hennessy has joined the Military Hospital at Cosham. Major H. A. Berryman has been transferred from Bury to Chester. Major G. J. Buchanan has been granted six months' general leave of absence home from India. Major E. C. Anderson, D.S.O., has been appointed to the medical charge of the troops at Golden Hill, Isle of Wight. Major H. N. Dunn, lately commanding the Military Hospital at Dagshai, has assumed charge of the Surgical Division at the Royal Victoria Hospital, Netley, in succession to Major C. B. Lawson.

Captain L. L. Thorpe has been appointed to the Military Hospital at Cosham. Captain J. B. Hanafin has been transferred from Rawal Pindi to the Station Hospital at Peshawar. Captain T. T. McEntire has arrived home from Sierra Leone. Captain F. A. H. Clark has been placed under orders for service abroad during the coming trooping season. Captain G. H. Rees has been appointed to the Belfast District for duty. Captain T. S. Eves has been transferred from the Seventh (Meerut) Division to the Eighth (Lucknow) Division. Captain L. A. A. Andrews on return has been appointed to the Irish Command. Captain A. E. B. Jones has been transferred from Mandalay to Wellington. Captain S. M. Adye-Curran has taken up duty at Sialkot as Specialist in the Prevention of Disease, and has been appointed in charge of the Brigade Bacteriological Research Laboratory. Captain D. Ahern has been appointed Company Officer at Cairo.

Lieutenant C. T. V. Benson has been appointed to the Military Hospital at Bangalore for a course of instruction in Indian sanitation. Lieutenant W. Stewart has been transferred from Colchester to the Military Hospital at Bedford. Lieutenant V. P. Hutchinson has been detailed for service abroad during the coming trooping season. Lieutenant P. G. M. Elvery has taken over charge of the Military Hospital in Cyprus. Lieutenant T. J. Hallinan has been appointed Anæsthetist at the Royal Infirmary, Phœnix Park, Dublin. Lieutenant W. P. MacArthur has been appointed Specialist Sanitary Officer in Mauritius. Lieutenant J. Gilmour has joined for duty with the Public Health Department under the Egyptian Government. Lieutenant H. G. Robertson has been transferred from the Military Hospital at Lichfield to Malta for a tour of duty. Lieutenant W. Bisset has been appointed to Guildford. Lieutenant J. M. Weddell has been appointed Clinical Assistant at Queen Alexandra's Military Hospital, Grosvenor-road. Lieutenant E. G. H. Cowen has taken up duty at the Military Hospital, Warley. Lieutenant C. H. H. Harold has been appointed to the London District.

INDIAN MEDICAL SERVICE.

Lieutenant to be Captain: John Glendinning Bryden Shand (dated Jan. 30th, 1912).

Colonel A. O. Evans has been appointed to officiate as Principal Medical Officer of the Kohat and Bannu Brigades.

Lieutenant-Colonel E. C. Hare has been selected for appointment as Sanitary Commissioner of the Provinces of Bihar and Orissa. Lieutenant-Colonel J. Chaytor-White, Sanitary Commissioner of the United Provinces of Agra and Oudh, has been granted three months' extension of leave on medical certificate.

Major H. A. Smith, civil surgeon of Agra, has been granted privilege leave combined with study leave and furlough for nine months. Major D. H. F. Cowin has been appointed Civil Surgeon of Shahpur. The services of Major W. E. McKechnie have been placed at the disposal of the Government of India in the Home Department. Major R. F. E. Austin has taken over duty as Civil Surgeon at Kasauli in succession to Lieutenant-Colonel M. P. C. Holt, transferred. Major J. MacKenzie has been appointed Medical Adviser to the Nawab of Bhawalpur. Major W. O'S. Murphy has been granted six months' leave of absence home from India. Major C. E. Williams, Bengal Presidency, has been granted an extension of leave for three months. Major M. Dick, on return from leave, has been appointed Civil Surgeon at Meiktila, Burma.

Captain C. A. Gill has assumed charge of the office of Deputy Sanitary Commissioner in the Punjab, in succession to Major H. M. Mackenzie, transferred. The services of Captain T. F. Owens have been placed permanently at the disposal of the Government of Burma for employment in the Chemical Examiner's Department. Captain H. E. Stanger Leathes has taken up duty as Personal Assistant to the Surgeon-General with the Government of Bombay. Captain W. A. Justice has taken up duty as Sanitary Commissioner in Madras Presidency, in succession to Lieutenant-Colonel H. Thomson. The services of Captain H. Watts have been placed temporarily at the disposal of the Chief Commissioner of the Central Provinces. Captain N. S. Sodhi, plague medical officer, has been transferred from Gurgeon, to Ludhiana. Captain W. W. Jeudwine has arrived home on leave of absence from India. Captain W. C. Ross has been appointed Deputy Sanitary Commissioner to the Provinces of Bihar and Orissa.

Lieutenant J. Penny, on return from leave, has been appointed Civil Surgeon at Bassein.

TERRITORIAL FORCE.

Royal Army Medical Corps.

2nd West Lancashire Field Ambulance, Royal Army Medical Corps: Major Thomas Stevenson to be Lieutenant-Colonel (dated April 1st, 1912).

For Attachment to Units other than Medical Units.—Charles Conway Fitzgerald to be Lieutenant (dated March 28th, 1912). Alexander Pirie Watson, late Lieutenant 6th Battalion, The Royal Scots (Lothian Regiment), to be Lieutenant (dated May 4th, 1912). John Herbert Owens to be Lieutenant (dated May 4th, 1912).

DEATHS IN THE SERVICES.

Brigade-Surgeon Henry Octavius Thorold, Indian Army (retired), at his residence, Russell House, Ilfracombe, on April 29th, from syncope, in his 84th year. He qualified in 1851, and shortly afterwards entered the Indian Medical Service (Bombay) and later retired with the honorary rank of brigade-surgeon. For the past 30 years he has resided at Ilfracombe, where he took a great interest in all local matters. He served for many years on the old local board of Ilfracombe, being for two years the chairman. He was chairman of the local committee of the Royal National Lifeboat Institution.

Surgeon-General Michael William Kerin, C.B., late R.A.M.C., at Dover on May 2nd, aged 56. He obtained his commission in 1880, and served in Burma in 1885 and in the South African war, when he was present at the defence of Ladysmith (mentioned in despatches). He also served on the North-West Frontier of India in 1908 as principal medical officer in the operations in the Zakka Khel country (mentioned in despatches).

THE NEW ROYAL NAVAL MEDICAL SCHOOL.

The new Royal Naval Medical School at Greenwich College was opened on May 1st by Admiral H.S.H. Prince Louis of Battenberg, G.C.B., G.C.V.O., K.C.M.G., the Admiral President of the College. Admiral Sir John Durnford, Director-General Sir James Porter, and members of the committee and the teaching staff of the Dreadnought Seamen's Hospital and the London School of Tropical Medicine, who are giving material and most valuable assistance in the work of the school, were also present. Prince Louis congratulated the newly entered acting surgeons, and said it was most necessary to the efficiency of the service that they should fully avail themselves of the increased advantages now afforded by this school. It owes its inception to the recommendations of the recent Durnford committee. The central idea underlying the scheme is that naval medical officers will be able to keep more closely in touch with all that is best in professional life in London. The new pathological laboratory occupies the Queen Anne block of Greenwich Hospital Buildings. This has been completely and carefully rearranged with a view to efficiency and convenience. The fittings and appliances leave nothing to be desired, and the laboratory as a whole is a most satisfactory

establishment replete with all modern appliances. The private research rooms, the museums, and the well-lighted and perfectly equipped class-room, with accommodation for 26 students, particularly attracted attention. There is ample room for all kinds of research work. The extensive chemical and physical laboratories already existing at the college are, of course, ready to hand and will be fully utilised. The possibility of future expansion has also been fully considered and provided for.

EXPERIENCES WITH THE ARMY OF GENERAL GRANT.

In the *Military Surgeon* (Washington, D.C.) for April Captain Louis C. Duncan, Medical Corps, United States Army, recounts the hard work of the Medical Department of Grant's army at the battle of the Wilderness in May, 1864. As a result of the three preceding years of campaigning the divisions were, medically, well equipped—for example, there was an ambulance to every 150 men and a field hospital for each division. The department collected and cared for 2400 wounded on May 5th and 6000 on May 6th. Orders were then given to move the wounded to the base, but—this was the important omission—no organisation for this purpose had been provided; consequently army wagons were used and all the ambulances had to be withdrawn from the front to carry the serious cases. Captain Duncan tells how terribly these ambulances were missed in the battle of the 8th at Todd's Tavern, where stretcher bearers, unaided, had to deal with 1500 wounded, and very justly emphasises the disaster that in Cuba followed neglect of the experience of the surgeons in the Civil War, particularly in sending medical officers to war without sufficient transport. From Sept. 1st, 1911, to March 1st, 1912, Major Deane C. Howard tells us, the incidence of venereal disease in an American garrison has been nearly halved by the now well-known methods of venereal prophylaxis, and he shows good reason for supposing that it has been reduced by two-thirds when cases arising away from the garrison are excluded. This article, too, is well worth reading. The Army Board for the Study of Tropical Diseases reports that the substance in rice polishings which protects fowls from polyneuritis is soluble in cold water and in cold alcohol and dialyses. It only contains 0·00165 per cent. of phosphoric anhydride. A third case in the Philippines in which B. paratyphosus A was recovered from the blood of a patient (this time a Japanese) is reported. Also there is a statement that the "X bodies" mentioned by Dr. Andrew Balfour[1] and by Horrocks and Howell[2] are artefacts, due to inequalities on the surface of glass slides, especially if they have been kept for some time in the tropics. An article by Dr. zur Verth, of the German Navy, on the hospital ship the plans of which he exhibited at Dresden last summer, is translated into English by Surgeon T. W. Richards, United States Navy.

Correspondence.

"Audi alteram partem."

THE SPREAD OF PLAGUE BY INGESTION.

To the Editor of THE LANCET.

SIR,—Of the importance of the flea in plague dissemination, as illustrated by the labours of the Indian Plague Investigations Committee, I have no doubt. But I look askance at the current opinion that if the universally admitted direct tramissibility of plague pneumonia be excluded, the rat flea is the *sole* agent in plague spread. In the laboratory, methods may be classed as of major or minor importance, rare and but theoretically possible, but the multiplication of chances in the circumstances of a free population may in practice render even instances of the last class the *starting point* of disastrous epidemics.

In your leading article of April 27th on the above subject, without suggesting any other explanation of Dr. McCoy's observations at Hamakua, you assert: "The probabilities of plague microbes reaching articles which are consumed in an uncooked state, and on which the bacilli can multiply, are extremely slight." In support of this opinion you point to conditions in the East, and contend that plague bacilli on grain "die out in a short time, as soon, in fact, as they become well dried." True—but if work as to plague bacilli on grain and in contact with sand and earth by Hankin and Klein, respectively, be not put aside, the time for mischief may be measured by days before their vitality is thus finally quenched. Even were their vitality not longer than the six hours credited to "grossly contaminated floors" by the Indian Plague Investigations Committee, there is, during a single night, plenty of room for possibilities in an Indian home. The question of multiplication of plague bacilli adverted to by you may be put aside if contamination be gross, as well may be the case. You state that grain "is almost universally cooked before eating, and this, of course, necessarily secures the destruction of the microbe." With this I agree. You then proceed: "Nor is it easy to perceive how articles of food consumed uncooked by man can readily become infected by bacilli." As to the latter point, if it be admitted that in most villages in India the rats exceed in number the human population and have practically undisturbed access to shops, stores, and dwellings, and that, in sanitarily neglected human plague cases, flies may have access to pneumonic and other infective discharges, there would seem no reason why fruits, supari nuts, and betel leaves should not, at times, be contaminated. But, uncooked rice (paddy) and other grains run special risks of contamination during storage. For grains transported in bulk or sacks to contain living or dead plague rats, or rats' fæcal matter, and, presumably, fleas and their fæces, is by no means uncommon. Now, as in the Indian household the women husk the grain by pounding in stone or wooden mortars, and winnow it (using an open basket of dustpan shape) and free it of stones by throwing it into the air and moving the mass with their fingers, necessarily they are exposed to air laden with possibly plague-infective material that in part need not be so "well-dried" as to be deprived of vitality. Further, the responsible woman of the household uses no scales or weights in issuing her day's supply of grain from her store, but by a combined system of hand measuring and sight forms her estimate, and, as I have frequently verified during famine investigations, thus secures constant results within an error of one or two ounces. Here contaminated fingers may be placed in the mouth or nose, or the hands may have abrasions.

But your argument ignores the important possibility of cooked food being contaminated when cold. You would allow it to be understood that the labouring classes of India use only recently cooked articles of diet. This is not the case. The average labourer, especially in rural areas, after industriously abrading his gums with a stick (in its absence I have seen sand used in Burma), and after thrusting his fingers down his throat, in his effort to cleanse his teeth and mouth, and secure, if he can, the supreme happiness of a regurgitation of bile, proceeds to the site of his work. *En route* he eats cold cooked food left from the meal of the previous night, which (as well as its containing cloth) may have run considerable risks of contamination before daylight by plague-bearing agents above referred to. To these possibilities of food infection I need hardly add the fact that the hands which he uses for eating direct (although cleansed after the morning anal ablution) may have been brought in contact with clothing and bedding that have also during the night been subjected to contamination by rats and fleas.

You complete your argument by stating that up to the present time "there is absolutely no epidemiological evidence pointing to the spread of plague through the agency of food." As to this, I think there is no want of facts which might reasonably point to such influence as incidental in epidemics due in the main to other causes; the difficulty as to absolute proof lies in the impossibility of fully excluding these other factors—a circumstance which applies equally well to proof of infection by fleas. It does not belittle the latter agency to say that, to the best of my belief, up to date no direct proof in the human being has been obtained in any country.

I am, Sir, yours faithfully,

W. G. KING,
Colonel, I.M.S. (retired).

April 30th, 1912.

*** We readily recognise the right of Colonel King to speak with authority upon Indian questions, but nevertheless

[1] THE LANCET, Feb. 4th, 1911, p. 295.
[2] Journal of the Royal Army Medical Corps, vol. x., p. 352.

we do not think that his arguments are sufficiently convincing to make us alter our opinion that ingestion plays practically no part in the spread of epidemic plague. We have in our article referred to admitted the theoretical possibility of such a method, but only in circumstances little likely to occur naturally. To produce plague by feeding it is necessary that large doses of virulent material should be swallowed. In the instances of possible infection by contaminated food in Indian households described by Colonel King we do not think that these large doses of virulent infection would be likely to be received, and we know of no evidence to favour this suggestion.—ED. L.

THE VALUE OF PNEUMOCOCCUS VACCINE IN THE TREATMENT OF PNEUMONIA.

To the Editor of THE LANCET.

SIR,—I have read the correspondence in your journal on the above subject, and in that connexion I should like to mention a case of this disease I treated more than a year ago with stock vaccine with a remarkable result. The patient was a strong young man who had come up to Peshawur from a warmer part of the country only two days before, and whom I had passed as a recruit less than 20 hours before he came into hospital. He came in late at night, and I saw him the next morning and found him to be a typical case of lobar pneumonia. One dose of 10 millions of Burroughs and Wellcome's stock vaccine was injected before midday, and when I saw him again on the following morning his temperature was normal, pulse slow and regular, all distress and signs of toxæmia had vanished, and the patient was quite comfortable, and remained so. The temperature to my great surprise remained normal, though I gave no more vaccine; but the physical signs, which were so typical as to leave no room for mistake in diagnosis, were unaffected, and took several days to clear up exactly as though the case had gone on to crisis without complications. This was the only one amongst the few cases I was treating with vaccines at that time that I caught early, but it will serve to swell the number of those which show both the possibility of aborting an attack of pneumonia and, as Dr. Nathan Raw says, the desirability of attempting to do so.

I am, Sir, yours faithfully,

CHARLES H. BARBER,
Captain, I.M.S.

Banda, United Provinces, India, April 18th, 1912.

THE BED ISOLATION OF CASES OF INFECTIOUS DISEASE.

To the Editor of THE LANCET.

SIR,—Stress of work has prevented me from replying sooner to the two letters published on April 27th. From Dr. Crookshank's reference to my lingering attachment to cubicles it has occurred to me that in laying stress on the distinction between the results of barrier and cellular nursing at Plaistow Hospital I may have seemed unfair to bed isolation, especially as I stated at the outset that the last was in my opinion a definite advance. At any rate it appears that my position relative to these three methods has not been made clear. Other things being equal, in the sense that the nursing is averaged, I regard the cellular system (not specifically the use of cubicles) as safer than any form of "unit" nursing in common wards when scarlet fever, measles, and chicken-pox are in question. With averaged nursing I take it that bed isolation will do all that the barrier can, and that in view of certain disadvantages there is no future for the barrier except possibly in the treatment of profusely discharging cases and as an occasional convenience under other conditions. Dr. Rundle and Dr. Burton, again, have to my mind made out a very strong case for bed isolation in the control of scarlet fever, measles, and chicken-pox if the nurses are selected and the medical supervision is thorough. The last word in this respect has not, of course, been said, nor can effective criticism take the form of *a priori* argument. Other tests, which immediate discussion of the subject may help to direct, can alone decide the issue; and yet, if they fail, it will be difficult to eliminate a difference in the quality of the nursing as a possible reason. This last fact brings me to the point I have had in view all along. Given it is proved that the Fazakerley results represent a real success, and are not the outcome of luck, the general adoption of bed isolation will not follow as a matter of course. First will have to come an all-round improvement in the standard of preventive nursing. It is one thing to succeed in a test with circumstances at their best; it will be another to "live with" a system in which a flaw means so much.

Referring to Dr. Thomson's letter, the cellular division at Plaistow Hospital has been in service for over 10 years and accommodates eight patients, grouped, according to the disease, in three wards containing respectively, one, three, and four beds. It is used mainly for some isolated cases of scarlet fever and for most cases of measles and chicken-pox. Upstairs in the same block are two similar wards for sick staff. One of them holds four beds and the other three; as a rule both are occupied and the patients are nursed in common with those on the ground floor. Conclusions as to the control of scarlet fever, measles, and chicken-pox are based on possible cross infection on the ground floor and the evidence is to me convincing. If anything approaching what has been done safely in the cellular division had been tried with the barrier there would have resulted a disastrous record of cross infections. I state this with a due regard for the fact that the barrier implies a larger number of susceptibles, the essential point being that the barrier cannot do what cellular nursing can. On Dr. Thomson's suggestion that the results obtained by the barrier and cellular systems differ merely in quantity and not in kind I have no comment to make.

I am, Sir, yours faithfully,

Wimpole-street, W., May 6th, 1912. JOHN BIERNACKI.

To the Editor of THE LANCET.

SIR,—The point of what I said about Dr. Crookshank's statistics was that he was unable to give any statistics of diseases "treated together in the same ward." In your columns of April 27th he omitted the last phrase. The only figures Dr. Crookshank gave were those of 120 cases of scarlet fever and 73 cases of diphtheria, the majority of which were presumably treated in their usual wards. These subtracted from the total he now gives of "over 200 cases" do not leave a wide margin for other infectious or non-infectious diseases. My purpose was to show that he gave no statistics of these other cases, how many of each he treated, and in what wards.

Measles appears in the list of diseases he treated; if he left such a disease in his diphtheria ward it would have been important to know how many times he did so without cross-infection occurring. Varicella, the other disease which the barrier and cubicle systems have been unsuccessful in isolating, was apparently not dealt with by Dr. Crookshank. Yet it is a disease fairly frequently requiring isolation measures. Without such definite statements and statistics respecting these other diseases I must still hold that Dr. Crookshank's general conclusions were not of the value they might have been to those engaged in bed isolation work.

It still appears to me that Dr. Crookshank attaches considerable importance to aerial dissemination if four-hourly treatment of each patient's throat is required for its prevention, especially as he suggests that Dr. Biernacki's partial lack of success was due to want of this treatment. Dr. Crookshank did not in his original article or in his letters since confine his routine treatment to cases of scarlet fever or those suffering from septic infection of the nose or throat. I notice he has made no attempt to justify his belief that routine treatment can be done without the nurse touching the patient. Dr. Crookshank's remarks about the regions where THE LANCET, &c., are unknown are somewhat uncalled for, and not, I think, worthy of the writer. It may be gathered, however, from his letter in THE LANCET of April 13th that of the actual hearers of his paper only one attempted further investigation. We may, therefore, be excused if we did not give that portion of his paper more notice when it appeared.

It was not the purpose of my letter to claim priority, since Dr. Crookshank had already discussed that matter with Dr. Biernacki, but to point out that the work at Fazakerley had developed along lines of its own, had been in existence in a modified form at least a year before Dr. Crookshank published

his results, and that therefore the references to the work of the latter were sufficiently made.

I am, Sir, yours faithfully,

Liverpool, May 6th, 1912. A. H. G. BURTON.

THE MEDICAL PROFESSION AND THE NATIONAL INSURANCE ACT.

To the Editor of THE LANCET.

SIR,—Will you allow me, while thanking you for your notice of the book on National Insurance by Messrs. Carr, Garnett, and myself, to draw attention to one point which is of importance to the profession and on which your reviewer has somewhat misapprehended our meaning? Referring to the granting of various kinds of certificates your review says: "Surely these obligations are not imposed by the Act upon medical practitioners who join the panel." Quite so; but we nowhere connect the granting of certificates with the doctors of the panels. We simply give a list of duties or functions which may be carried out by medical men in general, not necessarily by doctors of the panels. As showing this to be our meaning, side by side with the granting of certificates we mention the acting as Insurance Commissioners which plainly cannot be a duty of the doctors of the panels.

But apart altogether from the book in question, seeing that the granting of the large number of medical certificates required, directly or indirectly, for the purposes of the Act will be an important business, perhaps you will allow me to discuss the question briefly in order to show how necessary it will be that the agreements between insurance committees and the doctors of the panel should set forth quite clearly what certificates, if any, the doctors of the panel may be expected to give free, what shall be specially paid for, and by whom. Three principal classes of certificates, among others, will be required: (1) Certificates of medical entrance examinations; (2) certificates to prevent ejectment by landlords under Clause 68; and (3) ordinary certificates for sickness and disablement pay.

1. Taking these in order, it is left entirely to the approved societies to say whether they will have any medical entrance examinations for admission to the societies. The Oddfellows and several other large societies have decided not to have entrance examinations, but other societies intend to require every person eligible for the insurance to furnish a satisfactory medical certificate if he desires to join such a society. These examinations are evidently for the convenience of the society and the society itself will have to make its own arrangements for obtaining them. The Insurance Committee can hardly be directly concerned with this, and the doctors on the panel, as such, cannot, as far as I can see, be required as part of their duty to make such examinations or furnish such certificates. If they do so, it will be by a separate private arrangement, with a clear understanding as to whether the society, or the applicants for admission, are to pay for the examination and certificate.

2. Certificates to prevent ejectment by landlords according to Clause 68 have to be obtained from "the medical practitioners attending on any insured person in receipt of sickness benefit." Thus application for these certificates will be made to the doctors of the panel who are in attendance. The certificate is to be sent to the Insurance Committee and is to be renewed weekly or oftener up to the end of three months, if necessary. Nothing is said as to who shall pay for such certificates, but presumably the persons who ask for them would be liable.

3. Ordinary certificates to entitle to sickness and disablement benefit are not mentioned as necessary in the Act, but in the Model Rules for Approved Societies, recently issued by the Commissioners, it is laid down as compulsory on every society that it "*Shall* require an insured member while drawing sickness or disablement benefit to send to the secretary once in each week, or at such longer intervals as the committee of management may require, a medical certificate of incapacity for work, stating the cause of such incapacity, and *may* require the member to submit to medical examination by a doctor appointed by the committee of management for the purpose." It is reasonable to suppose that for the special examinations last mentioned, which the society *may* require, the society itself will be liable to pay the doctor chosen, whether he be on the panel or not, but for the ordinary weekly certificates which the society *must* require the case is not quite so clear. Naturally, the doctor on the panel who is in attendance will be asked for these certificates, but nothing is said as to who shall pay for them nor whether they shall be a charge on medical benefit or on sickness and disablement benefits. The difficulty arises that the doctors on the panel will be in the employ of the Insurance Committees which have only to deal with medical attendance and treatment, whereas the certificates are required for the purpose of sickness and disablement benefits which are entirely administered by the societies, except for deposit contributors. It would therefore seem natural that the cost of these certificates should come out of sickness and disablement benefit funds. Three possibilities are here open: 1. The insured person himself may have to pay the doctor for each certificate, though this would be strongly resented by the insured. 2. The approved society may pay the doctor on the panel who is attending out of funds in the hands of the society. If this is done there should be a definite understanding made for some uniform fee throughout the country. 3. The Insurance Committee may pay for the certificates out of the medical benefit funds, though the cost might be charged afterwards to the society concerned if thought to be necessary.

If I may discuss probabilities, there can be little doubt that the Insurance Committees will work hand in hand with the societies, and seeing that in the past ordinary "sick notes" have practically always been given free by club doctors as part of their duty, I imagine that the Insurance Committees will want to make it part of the ordinary duties of the doctors on the panel to furnish such ordinary certificates for sickness and disablement benefit without special charge and as part of the duties for which a capitation fee is paid. If this is done, books of the ordinary form of certificate should be provided for each doctor on the panel, and any other form of certificate should be specially paid for by the person or body requiring it. At the same time it will be entirely for the profession itself to agree or not to agree to such an arrangement, and here again it is absolutely necessary that the agreement between the Insurance Committee and the doctors of the panel should leave the matter beyond all doubt. As you very rightly say, there is no authority in the Act "for requiring certificates to be given as part of medical attendance and treatment under medical benefit," and the profession could quite legally demand that the cost of certificates should be a charge on sickness and disablement benefit funds.

It will be seen at once that in this way the funds set apart for sickness and disablement benefits would supplement the inadequate provision for medical fees made under medical benefit. The amount in each case might only be a small proportion of a capitation fee, but considering the many millions of certificates that will be required every year, the aggregate would be very considerable. The whole question of certificates is deserving of far more consideration than has been given to it up to the present, and your reviewer has done good service in drawing attention to it, in spite of the fact that it has not yet been decided whether panels shall be formed or not.

I am, Sir, yours faithfully,

Salford, May 4th, 1912. J. H. TAYLOR.

To the Editor of THE LANCET.

SIR,—I have no desire, nor could it serve any useful purpose, to enter into further controversy with Dr. Charles F. Seville on the question of payment for work done. In his last letter in THE LANCET of April 27th he makes no attempt to reply to any of my arguments or to prove any of the assertions he made in his former letter. I am content to leave both letters to the judgment of my medical *confrères*.

I am, Sir, yours faithfully,

Bowdon, Cheshire, May 3rd, 1912. P. R. COOPER.

To the Editor of THE LANCET.

SIR,—In seeking to remove the objectionable features of the Insurance Act and to make it acceptable to them, two things stand out prominently in the programme of the medical profession. The first is the "six cardinal points." The second is the question of pledges.

The "six points" have been made a fetish of; they are cardinal or minor as they affect the individual practitioner. The man in general practice needs assurance that he will

receive adequate remuneration for services rendered, and that his income will not suffer by his taking work under the Act. In the current issue of THE LANCET (May 4th) Dr. Hall asserts that the sum offered (6*s.*) is "astonishingly generous"—it may be if the practice is chiefly made up of club patients; further, he says, "If we are prepared to be content with a premium that would give us a return not less than would be given by payment for work done at 2*s.* 6*d.* per visit, then I say with all emphasis that in the terms of the Act we are offered all that we can claim"—a statement that I doubt will be accepted by the great majority of medical men. I have no clubs or friendly societies. I have (say) 20 unmarried male patients worth on an average £1 per head per annum, all with an income under £160 per year; these will be swept in under the scheme, and if I wish to keep them as patients I must be content with a gross payment of £6 a year as against £20 now. What would be adequate remuneration for this work, and what is to compensate for the loss of £14 out of £20? How will Dr. Hall's argument meet this? And of what help are the "six cardinal points" here?

As to the pledges, the motto seems to be, "When in doubt have another pledge." We have been "snowed up" in pledges—I understand there are more to come. We have had them from the British Medical Association, from the *Practitioner*, from local divisions, and from local medical unions or societies, until the distracted medical man is driven to believe that his whole salvation depends on signing these many and varied documents. Bewildered as he is, he knows, anyhow, what he may *not* do; but what his exact position under the Insurance Act is likely to be in the future, or how these six points (they have not been granted) will influence his "profit and loss" account, he does not know; he finds no light to guide him; he anxiously looks for practical results and is rewarded with a copy of the latest pledge.

I am, Sir, yours faithfully,

MARTIN F. CUSACK.

Home Park road, Wimbledon Park, S.W., May 6th, 1912.

To the Editor of THE LANCET.

SIR,—Dr. B. Hall, in his letter in THE LANCET of May 4th, compares the sum-total of the average bookings per head of 67 men and 67 women (taken one after another from his ledgers) on a two-and-sixpenny visit basis, during the past four years in private practice, with the amount that he would have received under the Insurance Act capitation allowance at even the proposed 4*s.* 6*d.* a head, and he assures us that the former method is at a great disadvantage as a source of income. But accepting his assurance as to the correctness of the figures, and assuming that the circumstances of his practice are in no sense peculiar, the matter cannot be disposed of solely on the amount of money to be obtained by a given mode of practice, but must take into consideration the relation of the sums earned to the exertions that have to be made to earn them. To make his comparison of any value, he should now estimate the actual amount of physical and mental effort entailed, as indicated by the actual number of visits and consultations made, miles travelled, and time consumed in attending to his 134 private patients at a two-and-sixpenny visit tariff, and compare it with the same data regarding the same number of club patients at *per capita* rates for the same period. The question is not merely how much money can be taken in per 100 "clients" under each plan respectively, but at what expense to one's physical, mental, and æsthetic self can it be taken in.

I am, Sir, yours faithfully,

May 6th, 1912. EXPERTO CREDE.

SIXTH INTERNATIONAL CONGRESS OF RADIOLOGY AND MEDICAL ELECTROLOGY.—This congress will take place at Prague from July 26th to 31st. The subjects on the agenda are as follows: (1) Radio-activity; (2) treatment of joint affections by high-frequency currents; (3) the resistance of the skin; (4) phototherapy by light baths; (5) reinforcing screens; (6) ionisation and the electrolytic introduction of drugs; (7) the present state of very rapid radiography. Further particulars may be obtained from the secretary of the Congress, Dr. Krist. Hynek, General Hospital, Prague, Bohemia.

THE INTERNATIONAL CONGRESS ON TUBERCULOSIS AT ROME.

(FROM OUR SPECIAL SANITARY COMMISSIONER.)

Rome, April 25th.

THE SECTION OF SOCIAL DEFENCE.

Teaching Women and Feeding Children.

AT the commencement of Tuesday's afternoon sitting Dr. A. MURRAY LESLIE, of the Women's Imperial Health Association, London, explained how useful was the part women played in preventing the spread of tuberculosis. With the aid of cinematographs very effective lessons as to what should be done had greatly facilitated the propaganda work. These life-like pictorial representations were easily understood and appreciated. Most of their audiences were composed of married women, and much literature had been disseminated.

Dr. CASTELLANI (Italy) spoke of the staff in the elementary schools and the service they rendered in the prevention of tuberculosis by the zeal shown in supplying free meals for school children.

What is Done in Mexico.

Dr. A. PRANEDA, delegate of the Mexican Government, now described the measures taken in Mexico. There they recognised that the school was one of the most important factors in the spread of tuberculosis. Direct and indirect measures were needed. Direct were the medical examination of pupils and masters and the creation of special schools to isolate those who were infected. The indirect means were better sanitation and more suitable planning of school buildings, good food, and plenty of out-of-door exercise. Mexico, by reason of its geographical position, is remarkably free from tuberculosis, nevertheless the Mexican Government is taking the necessary precautions. Thus the Minister of Public Instruction has created a service of school hygiene, and insists that physical exercises shall form part of the daily training, that the pupils shall be fed, and that teachers and pupils shall undergo regular medical examination. The Mexican Government has now in consideration a project for the establishment of colonies in the mountains or at the seaside to prevent and to cure tuberculosis.

A Denunciation of Sanatoriums as Wasteful Failures.

Mme. GIUDICEANDRE (Italy) spoke in favour of the tents supplied by the Red Cross Society to enable delicate children to camp out, while Dr. GRILLI pleaded for classes under colonnades. However, all this advocacy of open air was destined to be scattered to the four winds by Madame SOPHIE FUCHS-WOLFRING, who announced herself as a co-worker of Dr. Carl Spengler, of Davos. Her speech, published in pamphlet form and in several languages, was widely circulated through the Congress. Quoting extensively from German official statistics, this lady came to the conclusion that "at an expense of 17 million marks Germany could render only 3200 people—i.e., 0·4 per cent.—out of 800,000 with T.B. harmless for their surroundings"; therefore popular sanatoriums have failed completely in the fight against tuberculosis, a fact "exhaustively proved" by the Government statistics. The speaker expressed regret that the British Insurance Act indicates that the English are about to imitate the Germans and waste their money in a similar manner.

The Sun as Nature's Disinfector.

M. AUGUSTIN REY (Paris) pointed out that the problem of tuberculosis was a social question, while the disease tuberculosis was a medical question. Now the first section of the congress dealt with the first and not with the latter question, a difference the French language renders in two words *la tuberculose*, the social problem; *les tuberculeux*, the patients or the medical problem. It was not always easy to get a purely medical mind to view a problem from the purely economic and social standpoint. But he wanted medical men to realise more fully that we have towns so built as to constitute a veritable scandal. He was not alluding merely to slums, his remarks also applied to rich dwellings. There was only one effective disinfector—the penetrating rays of sunlight. Yet in Rome big expensive dwellings, recently erected, had sides which the sun never reached. A school should be built north and

south so as to be disinfected on both sides every day the sun shone. By excluding the sun's rays natural disinfection was prevented.

Returning Emigrants.—Direction of Efforts.

Dr. CARITO (Naples) spoke about the emigration services and tuberculosis. He wished to improve the surveillance of returning emigrants, who often brought the disease with them.

The afternoon sitting concluded by an energetic speech in French from Dr. LACHAPELLE, a representative of Canada. Instead of labouring the precautions to be taken to save children, he insisted that the struggle was now especially directed against advanced cases, and asked if the results achieved justified the cost. He argued that the same amount spent on children would do more good.

Rome, April 23th.

Debate on the Compulsory Notification of Tuberculosis.

The compulsory notification of tuberculosis was the chief topic of discussion during the Wednesday morning meeting of the first section.

The debate was opened by Professor GUALDI, who is the medical officer of health of Rome. He gave a summary of the opinions expressed in various countries on this subject, and quoted resolutions passed at various congresses and conferences. On the whole he spoke in a diplomatic manner without venturing on any very emphatic pronouncement. The medical officer of health of Rome was followed by the medical officer of health of Liverpool.

Dr. E. W. HOPE pointed out that there were some cases of tuberculosis, associated with few constitutional symptoms, which were not recognised and yet might be very infectious. Other cases that were recognised did not appear to be infectious. Of course, the typical open case was highly infectious, but what about the so-called "cured" case? They all recognised that the best preventive measures consisted not only of better housing, but of improved conditions of occupation. In dealing with the patients themselves voluntary methods were first tried. The patients were persuaded to notify, and familiarity with the system made compulsory measures possible in England and Scotland. But the first step was taken only in regard to paupers, then notification was also rendered obligatory with respect to hospital cases, and now it was imposed for all cases. Even the voluntary notification of cases stimulated improvements, notably in the question of housing, and the public health authorities were able to help. It was quite as necessary to notify cases of tuberculosis among milch cows. In 1900 the town of Liverpool obtained power to penalise all dairymen who failed to report suspicious cases. The sale of the milk was stopped and a full investigation made. Tables showed how effective this measure had proved in reducing the quantity of tuberculous milk found among the samples analysed. As this paper was translated into French by Mr. Adolphe Smith it was understood by all present and listened to with great interest.

Notification to Ensure Disinfection.

Dr. KÜSS (Agincourt) argued that compulsory notification was a good measure, because in England, in Norway, and other countries where this system was introduced there had been no reaction, no attempt to draw back. Success in actual practice was the best of all arguments. The fear existed of injuring families by mentioning the cause of death on death certificates; but there was no need to publish names. Even where precautions were taken families in their distress at the approach of death were apt to become neglectful, so that the authorities should see that the disinfection was properly carried out. It had been proved that sputum in dark rooms retained its infective virulence for six weeks. Yet some harm had been done by exaggerating the danger of contagion. Where precautions were taken, as in sanatoriums, the attendants were not infected. The medical profession had still a good deal to learn. Prophylaxis could not be separated from therapeutics. They had to teach that it was the moral duty of practitioners to notify and warn, but there should be provided easy and cheap means of confirming diagnosis. Dr. Küss concluded that the notification of deaths from tuberculosis should be compulsory at once and in all countries, while the compulsory notification of all cases was desirable and should be brought about gradually.

Beating the Air.

The discussion that followed became somewhat confused. A French member declared that professional secrecy had become a sort of mania in France, and we must be careful not to let the problem become a political question. Thereupon an Italian practitioner explained that at Perugia there was a prison for 200 men and 300 women. The panes of glass had been removed from all the windows, and now for more than 20 years there had not been a single death from tuberculosis. No explanation, however, was given as to the connexion between this interesting fact and the compulsory notification of the disease. Another speaker, Signor MASSINI, complained that he had not learned anything of a practical character since he had attended the section. We were merely beating the air. Nothing really effective could be done without the aid of the Government and the Budget of the State. If the dispensaries were more active, certification would not be so necessary; but, notification or no notification, who was going to re-house the poor?

The Resolutions.

Professor GUALDI now rose to close the debate. Where the authorities had but little power notification was not of much use. If the public powers were extensive then it was well worth while insisting on compulsory notification. In Italy the tendency was to follow the example set in England. Private enterprise had helped to show Governments what could be done, and the speaker very skilfully tried to prove that everybody had agreed with everybody else in the discussion. Consequently he hoped to rally the opinions of the entire section by moving the following resolution:—

The Congress, having heard the reports made by Drs [illegible] Hope, and Küss, expresses the hope (1) that the pri[illegible] ducing in the legislation of the different countr[illegible] notification of tuberculosis not only in cases wh[illegible] tagion is certain but of all cases will be adopte[illegible] notification due consideration will be given [illegible] interests and be followed by prophylactic[illegible] competent public authorities.

This resolution was carried, but [illegible] confusion, for other resolutions w[illegible] came forth and added to the di[illegible] proposing a resolution with wh[illegible] sympathised but for the fact that [illegible] to do with the question. Then th[illegible] in translations so that a portion [illegible] ascertain what was taking place. [illegible] was carried that

The International Congress against Tuberc[illegible] impossible to apply the principles proclaime[illegible] enacted by legislature unless the public cons[illegible] hygienic necessities, affirms that it is absolu[illegible] establish, as the basis of the struggle against tube[illegible] and travelling schools of popular hygiene.

This, as will be seen, is very admirable, but it does not settle the question of compulsory notification. Finally, another resolution was adopted thus worded:—

The teachings of science in regard to the struggle against tuberculosis will remain nearly sterile unless it is recognised that the duty of undertaking this struggle should become one of the functions of Government, and that special taxation should be imposed to provide the indispensable means.

Now while these two latter resolutions were passed at the morning sitting, though they had nothing to do with the question then under discussion, a resolution connected with the question was introduced and carried at the afternoon sitting, when the matter of compulsory notification was not on the agenda, and therefore persons particularly interested did not consider it necessary to be present. This resolution was worded as follows:—

The Congress, while insisting on the absolute necessity of compulsory notification of all deaths from tuberculosis, considering also that in the interests of prophylaxis all cases *in vivo* should be known, while approving of such measures of compulsory notification as already exist and desiring that they should be scrupulously applied, points out that the creation of prophylactic dispensaries, if rendered obligatory by all the States, is the most practical means available.

A Nullifying Resolution.

This is a good example of the need of insisting that no resolution shall be put unless it is first translated into the official languages and circulated. Then due notice should be given as to the hour at which the vote is likely to be taken. There can be no doubt that the first section was emphatically in favour of the compulsory notification of all cases of tuberculosis. It was also clear that there was a small anxious

minority who did not wish this principle to be proclaimed. But it is impossible to read in between the lines of a resolution in the confusion of tongues and at the end of a long sitting when everyone wishes to get away. The chairman, it seems to me, could have ruled the last resolution out of order. The section was not called upon to express an opinion as to which was most useful—compulsory notification or anti-tuberculosis dispensaries. It would have been very foolish indeed thus to set up an antagonism between two most useful measures. But this is exactly what the resolution accomplished, and I am convinced that the section would have promptly thrown out any resolution which seemed capable of such an interpretation.

During the rest of the afternoon communications from individual members were read and details given as to the state of affairs in Catania, at Bergen, at Lucca, Livorno, Trieste, and other places.

Rome, April 29th.

Tuberculosis and the Housing Problem.

On Thursday morning the great housing problem was taken in hand. First we had the report drawn up by Professor ROSSI-DORIA. It emphasised the direct and indirect action of dwellings—direct when they were contaminated, indirect when they were so unwholesome as to predispose the inhabitants to disease. To construct a truly healthy house was to raise a moral as well as a material edifice. Therefore the construction of houses for the people should not be abandoned to speculators, but should be strictly controlled by the public authorities. This was not a technical and financial question only; it was, first and foremost, a moral question. The virtues of home life depended on the way the home had been built. The public authorities must consider the matter from this double point of view. Formerly poor relief and sanitation were left to individuals to do what they could. But it had long since been alised that organised collective action was indispensable. It equally necessary in regard to the housing problem. The should be healthy, but it should also be beautiful and e; there should be pleasure and joy within reach. oor man, acting alone, could not secure; but collec- and State supervision could procure much on principles at wholesale prices. No family should ; help for every sort of misfortune or accident ganised and close at hand, while baths, recreation braries, dancing rooms, and many other forms of appy relaxation could easily be provided within a group of homes, however poor the inhabitants.

The Tuberculous Houses of Paris.

e next report was from M. PAUL JUILLERAT, chief of the dministrative Bureau of the Sanitary Services of the city of Paris. What M. Juillerat has done, especially in organising the *Casier Sanitaire*, or sanitary history of every house in Paris, was described in THE LANCET of Dec. 4th, 1909. Now, at Rome, M. Juillerat gave the result of his observations commenced in Paris in 1894. He confirmed the previous speaker's contention that mortality increased in a house in proportion to its height and decreased in proportion to the size of the open spaces by which it was surrounded. When no direct rays of sunlight penetrated a dwelling-room it almost invariably became a centre of tuberculosis. No interior amelioration of a dwelling can replace direct rays of light. By giving more air and light to 816 houses in Paris the death-rate in those houses from tuberculosis had, in the course of two years, been reduced in the proportion of 16·60 per 10,000 inhabitants.

Need of Better Technical Education.

Professor GUIDO BORDONI UFFEDRUZZI (Milan) had also a report on the subject, which, however, was somewhat vague. He advocated teaching in the schools, but came to the point by insisting that engineering was one thing, while municipal and sanitary engineering was quite another matter. The latter should be taught as a special technique. The German example of making local administration a profession in itself should be followed.

The Land and the House.

On the housing problem M. AUGUSTIN REY (Paris) was, of course, well to the front, but on this occasion he devoted himself more particularly to the land, which he said, when monopolised by speculators, rendered housing reform almost impossible. The municipality, he thought, was better able to defend the interests of the community in this respect than the State because it was better acquainted with local circumstances. The municipality could now limit the height of new buildings and the amount of ground they covered. If this was strictly done it might discourage land speculators. A house to be healthy should consist only of a ground floor and two upper floors. As for old unhealthy dwellings, when these were condemned the compensation given should be estimated according to the sanitary value of the dwelling. The exorbitant sums paid in the past rendered it impossible to build healthy dwellings to be let at a reasonable rental.

Cave Dwellings.

Dr. D. CARITO (Naples) insisted on the importance of education in sanitary matters.

The Rev. Dr. LUIGI STURZO explained that in Calabria and Sicily the habits of the Middle Ages still survived. Some 60 per cent. of the inhabitants lived in places that were half houses and half caves built in the sides of mountains. There was no through ventilation possible.

The Resolutions on Housing.

The resolutions were now proposed and the following was carried forthwith:—

The Doctors Pizzini and Larosa and the Mayors of Caltagirone and of Bergamo have proposed a resolution, which is approved, confirming the right which communal administrations possess, or ought to possess, to forcibly expropriate unwholesome dwellings and avail themselves of all the financial resources at their disposal for this purpose.

The section further voted that:—

It is desirable all nations should establish technical schools for the special teaching of hygiene as applied to engineering.

Then, though it had no direct bearing on the housing problem, a resolution in favour of teaching domestic hygiene was adopted.

Dr. GIUSEPPE SANARELLI, member of the Italian Parliament, now delivered an eloquent speech. He accepted all M. Rey's theories, and recalled how well they had been set forth at the last Congress held in Washington. This is the text of M. Rey's resolution, and it was carried unanimously:—

The Congress insists that municipalities responsible for the preservation of public health have the greatest need of land, and, while carefully preserving what land they possess, should seize every opportunity of acquiring more, so as to ameliorate the hygienic conditions of the dwellings by limiting the surface such buildings cover and the number of inhabitants they contain.

Emigration and Tuberculosis.

The emigration problem in its relation to tuberculosis was next discussed. Dr. STELLA (New York) introduced the subject. He pointed out that out of 150,000 Italians proposing to emigrate to the United States only 3000 were turned back as tuberculous. But it was a very different matter indeed in regard to those who returned to Italy from the United States. A system of insurance should be established. If every emigrant was charged 10 francs on receiving his emigration papers there would be a central fund created of 1,500,000 francs. With this those emigrants who had failed to earn their living in the States might be assisted home instead of allowing them, as at present, to die from hunger in America.

Dr. CANDIDO, of the Emigration Department at Naples, warmly supported Dr. Stella. The people in Italy should not rest satisfied with getting money out of the returning and successful emigrant, but should also look to his health. The speaker asked that accurate statistics should be made in regard to returning emigrants, and that there should be a strict medical examination when they landed. Suitable measures should then be taken, and the insurance emigrant fund proposed would provide the means of carrying out these precautions.

The Countess DANIELLI (Rome) pleaded for the women and children emigrants, and the conditions arising out of the journey, more especially the return journey. French women watched over poor Italian women as they passed through France, but in Italy itself there was no one to protect them.

Professor SANARELLI and Dr. SESTILI (Lucca) insisted on the use of a 10 franc insurance tax, and the Baroness DE BONIS likewise approved.

Dr. CHACCONE, one of the chiefs of the Emigrant Service, said it would be cruel to prevent Italian emigrants from returning to die in their own country and in the bosom of their own families. But the sanitary precautions taken must

south so as to be disinfected on both sides every day the sun shone. By excluding the sun's rays natural disinfection was prevented.

Returning Emigrants.—Direction of Efforts.

Dr. CARITO (Naples) spoke about the emigration services and tuberculosis. He wished to improve the surveillance of returning emigrants, who often brought the disease with them.

The afternoon sitting concluded by an energetic speech in French from Dr. LACHAPELLE, a representative of Canada. Instead of labouring the precautions to be taken to save children, he insisted that the struggle was now especially directed against advanced cases, and asked if the results achieved justified the cost. He argued that the same amount spent on children would do more good.

Rome, April 28th.

Debate on the Compulsory Notification of Tuberculosis.

The compulsory notification of tuberculosis was the chief topic of discussion during the Wednesday morning meeting of the first section.

The debate was opened by Professor GUALDI, who is the medical officer of health of Rome. He gave a summary of the opinions expressed in various countries on this subject, and quoted resolutions passed at various congresses and conferences. On the whole he spoke in a diplomatic manner without venturing on any very emphatic pronouncement. The medical officer of health of Rome was followed by the medical officer of health of Liverpool.

Dr. E. W. HOPE pointed out that there were some cases of tuberculosis, associated with few constitutional symptoms, which were not recognised and yet might be very infectious. Other cases that were recognised did not appear to be infectious. Of course, the typical open case was highly infectious, but what about the so-called "cured" case? They all recognised that the best preventive measures consisted not only of better housing, but of improved conditions of occupation. In dealing with the patients themselves voluntary methods were first tried. The patients were persuaded to notify, and familiarity with the system made compulsory measures possible in England and Scotland. But the first step was taken only in regard to paupers, then notification was also rendered obligatory with respect to hospital cases, and now it was imposed for all cases. Even the voluntary notification of cases stimulated improvements, notably in the question of housing, and the public health authorities were able to help. It was quite as necessary to notify cases of tuberculosis among milch cows. In 1900 the town of Liverpool obtained power to penalise all dairymen who failed to report suspicious cases. The sale of the milk was stopped and a full investigation made. Tables showed how effective this measure had proved in reducing the quantity of tuberculous milk found among the samples analysed. As this paper was translated into French by Mr. Adolphe Smith it was understood by all present and listened to with great interest.

Notification to Ensure Disinfection.

Dr. KÜSS (Agincourt) argued that compulsory notification was a good measure, because in England, in Norway, and other countries where this system was introduced there had been no reaction, no attempt to draw back. Success in actual practice was the best of all arguments. The fear existed of injuring families by mentioning the cause of death on death certificates; but there was no need to publish names. Even where precautions were taken families in their distress at the approach of death were apt to become neglectful, so that the authorities should see that the disinfection was properly carried out. It had been proved that sputum in dark rooms retained its infective virulence for six weeks. Yet some harm had been done by exaggerating the danger of contagion. Where precautions were taken, as in sanatoriums, the attendants were not infected. The medical profession had still a good deal to learn. Prophylaxis could not be separated from therapeutics. They had to teach that it was the moral duty of practitioners to notify and warn, but there should be provided easy and cheap means of confirming diagnosis. Dr. Küss concluded that the notification of deaths from tuberculosis should be compulsory at once and in all countries, while the compulsory notification of all cases was desirable and should be brought about gradually.

Beating the Air.

The discussion that followed became somewhat confused. A French member declared that professional secrecy had become a sort of mania in France, and we must be careful not to let the problem become a political question. Thereupon an Italian practitioner explained that at Perugia there was a prison for 200 men and 300 women. The panes of glass had been removed from all the windows, and now for more than 20 years there had not been a single death from tuberculosis. No explanation, however, was given as to the connexion between this interesting fact and the compulsory notification of the disease. Another speaker, Signor MASSINI, complained that he had not learned anything of a practical character since he had attended the section. We were merely beating the air. Nothing really effective could be done without the aid of the Government and the Budget of the State. If the dispensaries were more active, certification would not be so necessary; but, notification or no notification, who was going to re-house the poor?

The Resolutions.

Professor GUALDI now rose to close the debate. Where the authorities had but little power notification was not of much use. If the public powers were extensive then it was well worth while insisting on compulsory notification. In Italy the tendency was to follow the example set in England. Private enterprise had helped to show Governments what could be done, and the speaker very skilfully tried to prove that everybody had agreed with everybody else in the discussion. Consequently he hoped to rally the opinions of the entire section by moving the following resolution:—

The Congress, having heard the reports made by Drs. Gualdi, Hope, and Küss, expresses the hope (1) that the principle of introducing in the legislation of the different countries the compulsory notification of tuberculosis not only in cases where the danger of contagion is certain but of all cases will be adopted; and (2) that in such notification due consideration will be given to personal and humane interests and be followed by prophylactic measures carried out by competent public authorities.

This resolution was carried, but there was a good deal of confusion, for other resolutions were proposed. A lady also came forth and added to the difficulty of the situation by proposing a resolution with which everyone would have sympathised but for the fact that it had nothing whatsoever to do with the question. Then there was a great deficiency in translations so that a portion of the audience could not ascertain what was taking place. Nevertheless, a resolution was carried that

The International Congress against Tuberculosis, considering that it is impossible to apply the principles proclaimed by science or the laws enacted by legislature unless the public conscience is alive to such hygienic necessities, affirms that it is absolutely indispensable to establish, as the basis of the struggle against tuberculosis, museums and travelling schools of popular hygiene.

This, as will be seen, is very admirable, but it does not settle the question of compulsory notification. Finally, another resolution was adopted thus worded:—

The teachings of science in regard to the struggle against tuberculosis will remain nearly sterile unless it is recognised that the duty of undertaking this struggle should become one of the functions of Government, and that special taxation should be imposed to provide the indispensable means.

Now while these two latter resolutions were passed at the morning sitting, though they had nothing to do with the question then under discussion, a resolution connected with the question was introduced and carried at the afternoon sitting, when the matter of compulsory notification was not on the agenda, and therefore persons particularly interested did not consider it necessary to be present. This resolution was worded as follows:—

The Congress, while insisting on the absolute necessity of compulsory notification of all deaths from tuberculosis, considering also that in the interests of prophylaxis all cases *in vivo* should be known, while approving of such measures of compulsory notification as already exist and desiring that they should be scrupulously applied, points out that the creation of prophylactic dispensaries, if rendered obligatory by all the States, is the most practical means available.

A Nullifying Resolution.

This is a good example of the need of insisting that no resolution shall be put unless it is first translated into the official languages and circulated. Then due notice should be given as to the hour at which the vote is likely to be taken. There can be no doubt that the first section was emphatically in favour of the compulsory notification of all cases of tuberculosis. It was also clear that there was a small anxious

minority who did not wish this principle to be proclaimed. But it is impossible to read in between the lines of a resolution in the confusion of tongues and at the end of a long sitting when everyone wishes to get away. The chairman, it seems to me, could have ruled the last resolution out of order. The section was not called upon to express an opinion as to which was most useful—compulsory notification or anti-tuberculosis dispensaries. It would have been very foolish indeed thus to set up an antagonism between two most useful measures. But this is exactly what the resolution accomplished, and I am convinced that the section would have promptly thrown out any resolution which seemed capable of such an interpretation.

During the rest of the afternoon communications from individual members were read and details given as to the state of affairs in Catania, at Bergen, at Lucca, Livorno, Trieste, and other places.

Rome, April 29th.

Tuberculosis and the Housing Problem.

On Thursday morning the great housing problem was taken in hand. First we had the report drawn up by Professor ROSSI-DORIA. It emphasised the direct and indirect action of dwellings—direct when they were contaminated, indirect when they were so unwholesome as to predispose the inhabitants to disease. To construct a truly healthy house was to raise a moral as well as a material edifice. Therefore the construction of houses for the people should not be abandoned to speculators, but should be strictly controlled by the public authorities. This was not a technical and financial question only; it was, first and foremost, a moral question. The virtues of home life depended on the way the home had been built. The public authorities must consider the matter from this double point of view. Formerly poor relief and sanitation were left to individuals to do what they could. But it had long since been realised that organised collective action was indispensable. It was equally necessary in regard to the housing problem. The home should be healthy, but it should also be beautiful and attractive; there should be pleasure and joy within reach. This the poor man, acting alone, could not secure; but collective action and State supervision could procure much on coöperative principles at wholesale prices. No family should be isolated; help for every sort of misfortune or accident must be organised and close at hand, while baths, recreation grounds, libraries, dancing rooms, and many other forms of healthy, happy relaxation could easily be provided within reach of a group of homes, however poor the inhabitants.

The Tuberculous Houses of Paris.

The next report was from M. PAUL JUILLERAT, chief of the Administrative Bureau of the Sanitary Services of the city of Paris. What M. Juillerat has done, especially in organising the *Casier Sanitaire*, or sanitary history of every house in Paris, was described in THE LANCET of Dec. 4th, 1909. Now, at Rome, M. Juillerat gave the result of his observations commenced in Paris in 1894. He confirmed the previous speaker's contention that mortality increased in a house in proportion to its height and decreased in proportion to the size of the open spaces by which it was surrounded. When no direct rays of sunlight penetrated a dwelling-room it almost invariably became a centre of tuberculosis. No interior amelioration of a dwelling can replace direct rays of light. By giving more air and light to 816 houses in Paris the death-rate in those houses from tuberculosis had, in the course of two years, been reduced in the proportion of 16·60 per 10,000 inhabitants.

Need of Better Technical Education.

Professor GUIDO BORDONI UFFEDRUZZI (Milan) had also a report on the subject, which, however, was somewhat vague. He advocated teaching in the schools, but came to the point by insisting that engineering was one thing, while municipal and sanitary engineering was quite another matter. The latter should be taught as a special technique. The German example of making local administration a profession in itself should be followed.

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Professor SANARELLI and Dr. SESTILI (Lucca) insisted on the use of a 10 franc insurance tax, and the Baroness DE BONIS likewise approved.

Dr. CHACCONE, one of the chiefs of the Emigrant Service, said it would be cruel to prevent Italian emigrants from returning to die in their own country and in the bosom of their own families. But the sanitary precautions taken must

be greatly increased. Endeavours must be made to restore the health of the emigrants who returned home.

Dr. STELLA replied, arguing that the German compulsory insurance was the most effective thing that had been done, because it provided money. Nothing could be achieved without means to cover the cost. The section therefore unanimously adopted the following resolution:—

The Congress recommends the compulsory insurance of emigrants against tuberculosis so that they may be protected and prophylactic institutions established for their reception when returning to their own country.

Rome, April 30th.

Alcohol and Tuberculosis.

On Saturday, April 20th, the sections met for the last time. In the First Section the debate was opened by Professor G. SIMS WOODHEAD (Cambridge). He presented a report on clinical and laboratory experiments made with a view of ascertaining how far alcohol predisposed persons to tuberculosis. He quoted several authorities to show that the incidence of tuberculosis was greater among drinkers of alcohol than among non-drinkers. Tuberculosis was also more prevalent in trades especially exposed to the temptation of alcoholism. Slow alcoholic poisoning was surely an effective preparation for the invasion of pulmonary tuberculosis, said Letulle, basing his conclusion upon his observations in the Paris hospitals, and Professor Woodhead argued that cirrhosis of the liver and nervous disorders predisposed to tuberculosis. Children of drunken parents had less power of resistance, and the use of alcohol in sanatoriums was looked upon less and less favourably in England, France, and America, though this was not the case in Germany and Italy. Experiments on animals showed that alcohol impaired the nutrition of the tissues. If the danger of alcohol was insufficiently demonstrated there was still less proof of the benefits derived from alcohol. The prognosis in tuberculosis was less favourable in an alcoholic patient, because alcohol interfered with metabolism, and also with the patient's will power, making him less capable of determined and persevering coöperation in his cure. Professor Woodhead concluded that the anti-alcohol and the anti-tuberculosis agitations should be allied.

Reducing the Power of Resistance.

Dr. H. TRIBOULET (Paris) had also a report on the same subject. While in general agreement that alcohol did predispose to tuberculosis, he did not think this could be demonstrated by experiments on animals. In man they had a chronic poisoning extending over many years; in animals the alcohol was suddenly administered. But he concluded that the medical profession did not know enough about the question to dogmatise.

The Chairman (Professor SANARELLI) intervened to point out that in Norway, which he described as the cradle of alcoholism, there was less tuberculosis than in Italy, where the people were exceptionally sober.

Mme. SOPHIE FUCHS-WOLFRING described some experiments she had made by precipitation of the blood taken from a man who, to aid these experiments, abstained from alcohol for a certain number of days and then drank to excess for another period. The result was that the more the man drank the higher she found the toxic line. By this method they might perhaps be able to demonstrate that the power of resistance was reduced.

Adulteration the Real Evil.

After a few more speeches a strong protest was made against the wholesale condemnation of alcohol in its every form. It was pointed out that fraudulent spirits were sold which often were deadly poisons. Naturally, the people who drank poison were poisoned. The sale of poison in the form of spirits, wine, or beer should be treated as a crime. Then there were essences, such as that of absinthe, which did an infinite amount of harm.

Denunciation of Home-work.

The section now reached the last subject on which specially prepared reports were submitted for discussion. This was the question of home-work, and the first report was drawn up by Dr. CAROZZI (Milan). Home-work, he maintained, was specially injurious, because it favoured the employment of young, sometimes very young, children. It was a question of low wages. The municipality of Florence had drawn up statistics in regard to the prevalence of tuberculosis in different parts of the town, and the figures agreed with those of Milan and Turin. Where there was the greatest density of population, the greatest poverty, and many home-workers there the highest number of cases of tuberculosis were found. The remedy suggested by the speaker was a minimum wage to be earned in clean, well-lit, communal workshops.

Home work and the Sweating System.

Mr. ADOLPHE SMITH (London) rose to remind the section that some legislation had been realised on these lines, at least in England. Home work and the sweating system were intimately allied. The first great agitation against sweating occurred in the "forties," when Sir Robert Peel's daughter contracted small-pox from a riding-habit made in a sweating den. More than 30 years ago the speaker had come across scarlet fever among home-workers who made clothes for tailors. In 1884, through the columns of THE LANCET, he started an agitation which led to the appointment of the House of Lords Commission on Sweating. The result of this great investigation was that the State and the municipalities were induced not to give out contracts for work unless done under wholesome conditions and for something approximate to a living rate of wages. In England most elaborate scientific investigations had established the fact that the average family could not possibly be fed, housed, and clothed for less than 23*s.* a week. Obviously, tuberculosis could not be prevented among those who were badly housed, insufficiently clothed, and underfed. But it could not be expected that they would fare better unless they earned sufficient to pay for what they needed.

Professor WOODHEAD, having expressed his satisfaction at the clear statement made by Mr. Adolphe Smith, wished to add that London had formerly a high death-rate; and if it was so remarkably low to-day this was due to the great improvement in general sanitary conditions. Wherever he went the Englishman carried with him the greater resisting power he had acquired through living in more wholesome surroundings. Other speakers agreed with this explanation, and the section concluded what may be called the official part of its programme by carrying the following resolution:—

Considering that home work is one of the most dangerous causes of the spread of tuberculosis and other infectious diseases, because these homes are often themselves infected, the medical attendant should not only notify the presence of tuberculosis or other infectious diseases, but should also notify the nature of the work done for various customers in the home, so that the objects made should be disinfected by the Municipal Bureaux of Hygiene before they are delivered to the purchasers. This much may be done pending the enactment of special laws on home work which shall abolish such home work in industries that may convey disease, as also in regard to all work in connexion with the food-supply.

Conclusion.

Looking back over the week's activities in Rome, I am more than ever impressed with the need of some clearly defined mode of procedure for the government of these international scientific congresses. In England the methods of self-government are ingrained in the people, and everybody has some idea as to what a chairman is expected to do. On the continent even the meaning of the word resolution is not always understood. At Rome it was frequently confused with the conclusions of a paper or the moral drawn from an argument. As for demanding that a resolution should be seconded before it is discussed, or keeping the speakers to the subject matter of the resolution, that was never attempted. No speaker was ever told that he was out of order, and this for the very simple reason that no one seemed to know what order meant. The fundamental defect is the want of a rule; the second is the need of chairmen capable of enforcing obedience to the rule. Otherwise the discussions went on very well and smoothly, especially if we consider there was no really established method of procedure. Also it must be gratefully acknowledged that the Italian organisers did their best throughout and were unwearying in the courteous attentions they paid to all. This reminds me that in regard to the unfortunate occurrence at the opening ceremony, when so many members of the Congress were unable to gain admission, I have received another explanation. Whenever the King is to be present tickets have to be sent to the whole of the Diplomatic Corps, the principal State functionaries, and the Cabinet Ministers. But on this particular occasion, and in consequence of the very recently attempted assassination, the organisers of the Congress had also to give several hundred tickets to a whole army of detectives. On the other hand, the municipality

would not allow the opening ceremony to be held in its great concert hall, which was admirably fitted for the purpose, because it would have been difficult to refuse to allow this hall to be used on other and less desirable occasions. At the last Congress, at Washington, the same difficulty of finding a suitable meeting place was the source of much trouble and disputation.

Then the whole question of discussion, especially when resolutions are proposed, should be very carefully regulated. Resolutions should not be sprung unawares on a congress. When there are resolutions, debates should be on the resolution and only on the resolution, and the proposed resolution should be printed in all the languages and circulated some time before the debate.

These criticisms, be it well understood, though suggested by my recent experience at Rome, are not special to this last Congress. They apply to nearly all the congresses that have been held on medical and the allied sciences. That is why I think there should be a congress or a conference on congresses; how they should be organised and by what rules governed. As far as the Congress that has just concluded its labours at Rome is concerned it has accomplished a good work, it has powerfully stimulated the desire for reform, and provided the foreign members with an instructive and pleasant opportunity of visiting the Rome that has so constantly been present in our studies, our reading, our thoughts, and our affections.

MANCHESTER.

(FROM OUR OWN CORRESPONDENT.)

A Milk War: Cost of Distribution Equal to Cost of Production.

A DISPUTE has been going on for some time between the Cheshire dairy farmers and the Manchester retail dealers. The farmers hold that they are entitled to at least another halfpenny a gallon for milk on rail—i.e., delivered free—which would make the price 7½*d.* a gallon, while the retailers contend that owing to cost of delivery, rent and taxes, and other matters they cannot pay more than they do now. It seems that Manchester consumes less milk *per capita* than Liverpool—viz., 5 oz. per head of population per day for Manchester as against 7 oz. for Liverpool. The cost of distribution seems almost as great as the initial price of the milk. At the "barn door" farmers calculate that it costs 6*d.* a gallon, while the larger dealer asserts that by the time a round is done, and freightage charges, costs, bad debts, and the rest are crossed off, the cost of distribution works out at a good 6*d.* a gallon. The ordinary public pay from 1*s.* 2*d.* and in some cases 1*s.* 6*d.* per gallon. At present 6000 gallons of milk are being sent to the Cheshire Milk Producers' Association cheese factories instead of to Manchester or Liverpool, so that higher prices are charged for milk with corresponding hardship to the very poorest classes who have young children to rear. The whole system of milk distribution demands consideration and simplification with a view to the reduction in cost to the consumer. If milk costs 6*d.* a gallon "at the barn door," and if the carriage to Manchester or Liverpool on top of this is ¾*d.* per gallon, the farmer on the 7½*d.* per gallon scale obtains only ¾*d.* to 1*d.* a gallon profit. It is not unlikely that the farmers will combine and establish a distribution depôt in Manchester to which milk could be forwarded for sale in place of sending the whole of it to the cheese factories.

The Tuberculosis Exhibition.

The corporation of Manchester and Salford and the National Association for the Prevention of Consumption have arranged for the Tuberculosis Exhibition to be on view in Salford from June 3rd to 10th, and afterwards in the Milton Hall, Deansgate, and the Hulme Town Hall, Stretford, remaining a week at each place. The annual conference will be held in Manchester on June 5th, 6th, and 7th. In Dundee, Aberdeen, and Glasgow alone the exhibition was visited by 111,000 persons.

Prevention of Cruelty to Animals.

In the annual report of the Manchester branch of the Royal Society for the Prevention of Cruelty to Animals it is stated that cruelty can often be prevented in better ways than by prosecution. In many cases all that is wanted is enlightenment as to methods of treatment more humane than those which are ignorantly and thoughtlessly pursued, and the committee consequently lays great stress on its educational work. There were 221 convictions last year and 900 cautions were given for minor offences. Private slaughter-houses are criticised as indefensible on sanitary, humanitarian, and economic grounds. It appears that the traffic in decrepit horses still continues. This traffic ought absolutely to be stopped.

Children in a Factory Town.

Dr. F. G. Haworth, medical officer of health of Darwen in Lancashire, in his report states that home influence is losing its hold on the children, and that every evening those who are not in places of amusement are for the most part in the streets making night hideous with their cries. Among the mill hands, babies and children are put out to nurse, being carried out early in the morning by their parents on the way to work, and put into cradles which may be cold and are often partly filled with straw of a questionable quality. The feeding also is doubtful in character and regularity until the baby is taken home after the parent's work is done.

Defects of Teeth and Verminous Heads in School Children.

Dr. C. S. Storrs, the school medical officer of Colne, deplores the fact that there is no local clinic or charitable society to deal with the large number of children with defective teeth. In some respects the condition of hair and scalp is even worse. Among the girls no less than 61 per cent. of all examined were, strictly speaking, verminous. He ascribes this rather to ignorance than neglect.

The Manchester Royal Infirmary.

At the monthly meeting of the lay board held on April 30th a legacy of £200 and a grant of £1000 from the Manchester and Salford Hospital and Saturday Fund were reported. The meeting passed a resolution expressing regret at the forthcoming retirement of Dr. Judson S. Bury, who has been associated with the institution for 27 years, four years as medical registrar and 25 years as a member of the medical staff. The chairman, in moving the resolution, expressed high appreciation of the eminent services Dr. Bury had rendered. Dr. E. M. Brockbank was appointed to succeed Dr. Bury.

The Health of School Children.

Mr. H. H. I. Hitchon, medical officer for schools in Heywood, says that in the majority of the schools the windows are cleaned only once a year, and it is doubtful in some instances if the school floors are washed even so often. He strongly condemns the late hours to which young children are accustomed. He urges the necessity of rousing the parents from their apathy and indifference in regard to the food of their children. As compared with the previous year, 34·2 per cent. of the children examined, an increase of over 4 per cent., suffered from defects requiring immediate examination and treatment. Tea instead of milk formed the chief beverage; indeed, little milk and less porridge were used. Ringworm is excessively prevalent in some schools. The Salford education committee has decided to obtain a complete apparatus for dealing with cases of ringworm, which will be placed under the direct control of the medical staff.

Food Condemned at the Docks.

During the past month 14 tons 1 cwt. of foodstuffs were condemned at the Manchester Docks. Amongst the condemned food were 35 tins of sardines and 123 tins of egg-yelk.

The Sanitary Defects and Dangers of New Houses.

The sanitary department of Salford used to make tests only in respect of old property, but for several years now the council has carried out these tests on new property. An immense number of new buildings are erected every year, and are keenly competed for in the belief that new houses are healthier than old ones. That this assumption is valid only on certain conditions is shown by the results of efficient inspection. The annual report of the sanitary inspector points out that during the last year 469 tests were made of the drains of new property, and defects were discovered in 229, or 49·2 per cent., while in old property the percentage of defective drains was 35·1. As to sanitary fittings, 319 tests were made, and 126 defects, or 39·5 per cent., found.

May 7th.

BRISTOL AND THE WESTERN COUNTIES.

(FROM OUR OWN CORRESPONDENTS.)

University of Bristol.

ON April 27th the University of Bristol was for the first time visited by the new Chancellor, Lord Haldane, who stayed during his visit with the Vice-Chancellor, Sir Isambard Owen, and spent the afternoon in a detailed and thorough inspection of the buildings. The object of the visit, which was private, was to gain some knowledge of the work to which the University is committed and of the funds at its disposal. In connexion with the income of the University some little disappointment is felt at the report of the advisory committee on the distribution of Exchequer grants to the English Universities and University Colleges. The University of Bristol will receive £7000 yearly instead of the £4900 which were granted to University College, Bristol, the basis on which the grants are assessed being the "quantity of output," measured in terms of third-year students, instead of the amounts locally contributed to the University. This latter formed the basis of assessment heretofore, and it would have been more satisfactory so far as Bristol is concerned.

A Strike of Blind Workpeople.

About forty of the employees at the Bristol Blind Asylum workshops have come out on strike for a minimum wage of £1 per week for men and 13*s.* for women. The movement is directed against the over-payment of officials, whose salaries, it is alleged, absorb too large a proportion of the available funds, leaving relatively little money free for wages, the consequence being that a majority of the blind workpeople are in receipt of Poor-law relief in addition to their wages. The committee, in reply, points out that in the last eight years the number of workpeople employed by the asylum in its workshops has doubled, while at the same time the average wage per head has been increased. The strikers, who are supported by the National League of the Blind, have been out for a week and more, but no settlement is in view as yet.

The Bristol Guardians and Surgical Treatment of Indoor Paupers.

At a recent meeting of the Bristol guardians the Rev. A. E. Bray proposed "that the operations on patients in our various institutions be discontinued," apparently on the ground that there was no proper provision for efficient surgical work. It was pointed out that the equipment was sufficient for minor surgery, and that major operations were not performed by the medical officers to the workhouses; but this did not satisfy Mr. Bray and his supporters, for they insisted on a division, in which the resolution was defeated by 33 votes to 17.

The Devonport Borough Hospital.

The sanitary committee of the Devonport borough council recently recommended the council to enlarge the borough hospital at an estimated cost of £10,000, but the council referred the subject to the sanitary committee for reconsideration. The matter was again discussed at the meeting of the sanitary committee which was held last week, when it was decided to advise the council to purchase the land required for the extension, on the understanding that the committee will subsequently submit a modified scheme for the enlargement of the hospital.

The Royal Devon and Exeter Hospital.

At the recent quarterly meeting of the governors of this charity it was stated that there was a satisfactory balance in hand with the treasurer. After some discussion over the financial position of the hospital Dr. J. Delpratt Harris said that the institution was administered on the most scanty basis on which it was possible a hospital could be worked. He enumerated what he termed "ridiculous economies" and said the charity was "absolutely starved." Dr. Harris added that they were saving their money, but there were not sufficient room and appliances in the hospital, and that in some instances smaller hospitals had better appliances for the detection of difficult cases. The President, Mr. Tremayne Buller, said they all agreed that improvements were needed, and some were under consideration.

The South Devon and East Cornwall Hospital.

The committee of the South Devon and East Cornwall Hospital, Plymouth, has just issued the annual report of the charity for 1911, in which it makes a strong appeal for increased financial support. The income of the hospital in 1911 was £8137, the expenditure being £1546 in excess of that amount. The accumulated deficit balance at the close of 1911 amounted to £8158; the committee reduced this by selling stock to the value of £5146, but an unfavourable balance of £3012 still remains against the hospital. The institution is so deservedly popular in the West of England that the request of the committee should be generously responded to.

The Devon and Exeter Dental Hospital.

At the last quarterly meeting of the board of management of this institution it was resolved to adopt the report of the medical subcommittee and provisionally to adopt a scheme for providing artificial teeth for the deserving poor. It was also decided to fit up a laboratory for that purpose in the hospital.

Medical Inspection of Schools in Devon.

Mr. G. Adkins, the school medical officer for Devon, in his annual report for 1911 recently issued, states that during 1911 the three whole-time medical inspectors paid 760 visits to the schools. 17,104 children were examined, and of these 7964, or 46·56 per cent., were found to be defective, in consequence of which 3451 notices were sent to parents or guardians recommending them to obtain medical advice for the children. 34·74 per cent. of these notices were complied with. In addition to these examinations 3753 children were specially examined, and Mr. Adkins made 280 visits to schools in the county, in order to interview the managers or teachers, and to deal with matters of sanitation, infectious diseases, &c.

May 7th.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

Revocation of Diploma.

AT a special meeting of the Royal College of Physicians of Edinburgh, held on May 7th, the name of Mr. Frederick William Axham was directed to be erased from the register of Licentiates by a vote of 43 to 1. Mr. Axham was represented by counsel. His name was last year removed from the Medical Register by the General Medical Council for administering anæsthetics for the operations of Mr. H. A. Barker, an unlicensed practitioner. He was then given the option of dissociating himself from unqualified practice, but declined to do so.

Kingseat Asylum, Aberdeen.

Dr. H. de M. Alexander, medical superintendent of Kingseat Asylum, Aberdeen, in his report for 1911, discusses the causes leading up to insanity, and states that it is generally difficult to assign any one factor as being the cause of an attack. The information given by relatives of patients is generally unsatisfactory and unreliable, the most popular "cause" of insanity as put forward by them being "a fall on the head while a child." Dr. Alexander says that an increasing number of cases of senile insanity are being admitted, and remarks on the troublesomeness of these patients. The cause of this increase, Dr. Alexander thinks, is the fact that there are more old people living now than there were 10 or 20 years ago. He further states that there is one type of person who ought to be segregated—that is, "the weak-minded female who is either morally facile or immorally vicious, and who enters and leaves our asylums owing to mild attacks of morbid excitement or depression, and who at intervals gives birth to children who become chargeable to the rates, either temporarily or permanently, according to their mental capacity." The patients who no longer require institutional care have been boarded out. Dr. Alexander hopes the word "lunatic" will soon disappear from our language. It would be considered the essence of cruelty to dub a man suffering from a physical disease with the name of his disease, or, what is worse, a nickname for it. "Why," he asks, "should it be tolerated in the case of mental disease, and here the word has no meaning, but is simply the survival of a senseless superstition."

Anthropological Museum, Marischal College, Aberdeen.

Professor Reid, the curator of the museum, has prepared

an illustrated catalogue of the Anthropological Museum, Marischal College, Aberdeen, which is published in a handsome volume of between 300 and 400 pages. With it is also published a list of the many interesting specimens from Labrador, West Africa, and Polynesia, which have been deposited in the museum by Sir William MacGregor, Governor of Queensland. The specimens in the museum now number several thousands, the nucleus being the objects of interest which were scattered over King's College and Marischal College, and were gathered together by Professor Reid. This has been, and is being, augmented by gifts from all parts of the globe, from old students and from people who know of and are interested in the museum. The catalogue has been admirably prepared. The illustrations are excellent, and Professor Reid is to be congratulated upon its production. The museum is open to the public and is attracting increasing attention.

County of Kincardine: Medical Officer's Report.

In his annual report Dr. William A. Macnaughton, medical officer of health for Kincardine, remarks that since 1901 there has been a decrease of 1696 in the population, due largely to emigration, the decay of the fishing population, the absorption of crofts into larger holdings, and the usual drift of the younger people into towns in search of employment. With regard to scarlet fever the report states that the number of cases in 1911 exceeded those of any year since 1897. Notwithstanding 20 years of notification, hospital isolation, and disinfection in all known cases, it could not be maintained that any diminution in the prevalence of scarlet fever had occurred. In view of the number of cases so mild as to escape recognition by parents and of those that might be deliberately concealed by them, Dr. Macnaughton was not at all sanguine that hospital isolation and treatment would have much effect on the spread of the disease so long as it continued to prevail in its present mild form. The report remarks upon the robust health of the farm servants in the Mearns, and says that little animal food is used by them, and such as is used is in the easily cooked form of ham or sausages or mince. Oatmeal is still their staple diet, and on such simple fare the farm servant, in spite of much hard work and constant exposure to the weather, keeps himself in the best of health and almost perfect physical condition.

Presentation to Dr. D. Carmichael, Boddam.

On the occasion of his semi-jubilee, Dr. D. Carmichael, Boddam, was presented, on the evening of May 3rd, at a large and representative meeting, with a purse of sovereigns, accompanied by a silver rose-bowl for Mrs. Carmichael and himself.

May 7th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

Imprisonment for Selling Watered Milk.

THE sentence of two months' imprisonment imposed by Mr. Drury, one of the Dublin magistrates, on a milk-dealer convicted of selling milk containing 30 per cent. of added water, should help to put a stop to a fraud from which the Dublin poor suffer largely. The offence was admitted, and it was stated that the defendant had been previously prosecuted and fined five times. It is obvious that the profits of selling milk and water are so considerable as to render a fine of little effect as a deterrent, and it is a matter of gratification to find magistrates beginning to take a sufficiently serious view of what is a very gross fraud on the poor.

The Medical Officers of the "Titanic."

Both the medical men lost with the *Titanic* were Irishmen, who had many friends in this country. The surgeon, Mr. William Francis Norman O'Loughlin, was a Cork man by birth, and was educated at Trinity College, Dublin. He took the Licence of the Royal College of Surgeons in Ireland in 1870 and the Licence of the King and Queen's College of Physicians in 1871. He had spent a great many years in the service of the White Star Company. He is said to have given every assistance, helping passengers with their lifebelts, calming their fears, and putting them into the boats, and when last seen was standing in the companion-way before the ship sank. The assistant surgeon, Dr. John Edward Simpson, was a native of Belfast, and was educated at the Queen's College there. He graduated as M.B., B.Ch., and B.A.O. at the Royal University of Ireland in 1903. He had been in practice in London for a few years, but recently, for the sake of his health, he accepted a post on the *Titanic*. He also went down with the ship. Both men leave records of devotion to duty of which the Irish medical profession has reason to be proud.

Irish Medical Association.

The annual meeting of the Irish Medical Association is to be held in Dublin on June 12th. Mr. Robert H. Woods, President of the Royal College of Surgeons, has been nominated as President-elect.

A Compensation Case.

In a case before the Belfast Recorder last week a man who said he was earning 22*s.* 6*d.* a week from the tramways was asked by counsel whether he had told his previous employers—from whom he received 7*s.* 6*d.* a week as compensation under the Workmen's Compensation Act—that he was earning that sum. The man said he had been instructed not to tell them of this. When the Recorder insisted on knowing who it was who had so advised him he mentioned a name. The Recorder said that in taking such a course this person was acting as badly as the man himself was. The man, the Recorder said, should have told the company who were paying him compensation the moment he began to receive from the tramways the full wages of 22*s.* 6*d.*

Medical Inspection of National Schools.

At the annual meeting of the supporters of Barrack-street school, Belfast, on May 6th, it was stated that the Board of National Education had received a sum of £7000, which was to be applied annually for medical work in connexion with Irish national schools, and a beginning is to be made at a very early date in Belfast. This is in accordance with the suggestion made in the "interim report" of the Tuberculosis Committee. It should also be recollected that it was the late Dr. W. A. McKeown to whom the real credit is due for directing attention to the insanitary conditions of the national schools of Ireland, and who urged long ago that they must be put into a proper hygienic condition.

New Union Infirmary in Ballymena.

A meeting of the Ballymena board of guardians, fixed for May 18th, is to decide the question whether a new hospital for non-infectious cases shall be erected or the present existing building shall be reconstructed. Opinion is in favour of the former course.

May 7th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

The Consumption of Alcohol in Paris.

THE Prefecture of the Seine has gathered statistics concerning the receipts from the Paris revenue duties from 1880 to 1911, and the consumption of alcohol in Paris during the same period. The duties, which in 1880 furnished the budget with a sum of 142,000,000 francs, produced in 1910 only 117,000,000 francs. This is due to the fact that since 1901 no duties have been levied on the hygienic drinks such as wines, cider, and beer, so that the city has foregone an annual income of from 56,000,000 to 57,000,000 francs. In 1900, the last year in which these duties were levied, the total duties amounted to 173,000,000 francs, from which they fell abruptly in 1901 to 106,000,000 francs. Since that time the figure has risen little by little, reaching 117,000,000 francs in 1910. Whilst the duty on hygienic drinks was levied the consumption of distilled liquors rose progressively; from 132,000 hectolitres in 1880 it passed 216,000 hectolitres in 1900. From 1900 to 1911 it oscillated between 115,000 and 133,000 hectolitres (120,000 hectolitres in 1910). One of the outstanding results, therefore, of the reform has been to increase the mean consumption of wines during the last ten years by 31·41 per cent., that of beer by 93·42 per cent., and to reduce on the other hand by 34·71 per cent. the consumption of distilled liquors. In 1881 the consumption of alcohol per head was 6·51 litres, in 1891 7·36 litres, and in 1896 5

litres. In 1906 the consumption was only 4·78 litres per head, and in 1910 4·22 litres. Such figures are an eloquent demonstration of the good results of this measure.

The Control of Table Waters.

During the last session of the Conseil d'Hygiène Publique et de la Salubrité, held at the Prefecture of Police, M. Hanriot, a Member of the Academy of Medicine, presented a report on the control to be imposed on the makers and vendors of table waters. This report, which was accepted, states that the Commission has been struck by the inadequacy of the existing regulations, which are now more than a century old. Hygienic ideas have undergone much modification during that time, and the sale of bottled table waters has acquired during late years an importance that calls for effective regulation. The Law of 1912 and the Ordinance of 1823 control adequately the water-supplies furnished by the towns, as well as the natural and artificial mineral waters, but the so-called table waters used for drinking purposes have escaped all control. They consist of any kind of bottled waters, whether or not they have undergone any manipulation. Anyone has the right to sell without supervision an incontestably unwholesome water, provided that he does not subject it to any addition or gasification. And these table waters are intended especially for invalids and those who are solicitous about their health, who pay high prices to be sure of obtaining better, or at least more carefully supervised, water. The Commission, thinking it dangerous to allow these waters to be sold without restriction, recommends that the quality of all table waters sold in bottle shall be certified by supervision and regulation. The conclusions of the Commission have been submitted to the Ministries of the Interior and of Agriculture.

Arsenic in Foods.

At the last session of the Academy of Sciences Professor Guignard communicated the result of the researches of M. Jadin and M. Astruc on the presence of arsenic in vegetable foods. Certain authors have previously worked partially on this question. In 1842 Raspail stated that arsenic was found in nearly everything in nature. In 1850 Stien demonstrated that the ash of the common cabbage, of the turnip, and of the potato contained appreciable quantities of it, and in the year following he found 0·11 gramme of arsenic in 10 kilogrammes of the ash of linen cloth, 0·2 gramme of arsenic in 10 kilogrammes of the ash of rye straw, and 0·3 gramme of arsenic in 10 kilogrammes of the ash of bovine excreta. The researches of M. Armand Gautier and M. Gabriel Bertrand, moreover, have demonstrated that arsenic exists normally in men and animals, and it is admitted that the source of this arsenic is in great part the foods furnished by the different natural kingdoms. M. Jadin and M. Astruc have adopted the method of destroying organic matters devised by M. A. Gautier and modified by M. Bertrand; the arsenic ring was found by Marsh's test performed in the manner indicated by M. Gautier, and all the reactions have been carefully verified. From the authors' study it follows that the cultivated mushrooms from the beds in the neighbourhood of Montpellier contain 0·006 gramme of arsenic to the gramme of matter examined; the black truffles of Vaucluse contain 0·020. Among the dry vegetables Japanese rice contains 0·007, ordinary red haricots 0·025, white haricots 0·010, grey peas 0 009, split peas 0·026, lentils 0·010, artichokes 0·010, salsify 0·007, chicory 0·010, corn salad (*mâche*) 0·009, lettuce 0·023, spinach 0·009, beans 0·020, green peas 0·004, celery 0·010, carrots 0·005, watercress 0·012, cauliflower 0·008, wild asparagus 0·010, and leeks 0·003. Among the nuts, hazel-nuts contain 0·011 of arsenic per 100 grammes of matter, almonds 0·025, filberts 0·013. Among fresh fruits, chestnuts contain 0·005, the apple 0·005, the pear ("royal" variety) 0·007, the Spanish orange 0·011. the Blidah mandarin orange 0·012, the Azores pineapple 0·008, and the Azores banana 0·006.

The Demolition of the Ancient Hôpital de la Pitié.

The demolition of the buildings of the Hôpital de la Pitié is the subject of a report by M. Duguet to the Conseil d'Hygiène Publique et de la Salubrité of the Department of the Seine. The measures proposed for the preliminary disinfection of these buildings are similar to those which were prescribed for the demolition of the Hôtel-Dieu annex. It will be necessary to destroy the vermin (rats, fleas, and bugs) by fumigations of 20 grammes of sulphurous acid to the cubic metre, all the openings being closed. Two days later the halls will be ventilated, then the floors and exposed joists will be swilled with a solution of hypochlorite of lime, a kilogramme to 500 litres of water. During the demolition the dust will be laid as much as possible with water.

Military Aeronautics.

Two circulars, one relating to officers, the other to those of the rank and file, of the army who wish to enter the military aeronautic services, lay down that henceforth candidates shall undergo a medical examination, special attention being paid to the condition of the heart and lungs. The degree of visual acuity must also be noted.

May 7th.

UNITED STATES OF AMERICA.

(FROM OUR OWN CORRESPONDENTS.)

New Polyclinic Hospital in New York.

THE new Polyclinic Hospital in West Fifteenth-street, New York, was inspected recently by about 200 medical men and nurses and others interested in hospital work. The building is of the skyscraper type, being 12 storeys high. It is said to be absolutely fireproof, no wood having been used in its construction. The staircases are entirely of cement, the doors of metal, and the floors and walls of fireproof material. All the wards, both private and public, are above the roofs of surrounding buildings, so that the patients will benefit by the maximum supply of fresh air and sun. The building was begun in 1910. The patients are to be moved from the present building in Thirty-fourth-street and Second-avenue early in May.

Death of Dr. Freer in Manila.

Dr. Paul Gasper Freer, director of the United States Government Scientific Bureau in the Philippines, died in Manila on April 17th. Dr. Freer was born in Chicago on March 27th, 1862. He was a graduate of Rush Medical College, Chicago, and of the University of Munich. He was formerly an instructor in Taft's College, and later professor of general chemistry at the University of Michigan. After a term of service as superintendent of the United States Government laboratories Dr. Freer was appointed in 1905 director of the Bureau of Science in Manila, and in 1906 dean of the Philippine Islands Medical School. Dr. Freer was editor of the *Philippine Journal of Science*. He was a member of many scientific societies, and was the author of works on chemistry.

A Child Labour Bill in United States Congress.

A Child Labour Bill was introduced into the United States House of Representatives on April 12th. It prohibits employment of children under 14 years of age in any capacity, and of children under 16 years of age near machinery or in work at hazardous processes. The employment of anyone under 21 years of age in places in which liquor is made or sold, or as messengers after 10 o'clock at night, or at any employment at which the hours of work are longer than six days of eight hours each in any week is prohibited. Boys and girls under 12 years of age are precluded from selling newspapers, and no boy under 14 is permitted to act as a shoeblack. Children under 16 years of age must not be employed without certificates of age, health, and conduct issued by the superintendent of schools, who is authorised to employ inspectors to enforce this law.

Death of Miss Clara Barton.

Clara Barton, for 23 years President of the American Red Cross Society, which was established in this country through her efforts, died at her home in Glen Echo, Maryland, on April 12th, at the age of 90. Like Florence Nightingale, a large portion of her life was devoted to the aid of sufferers from war. She was born in North Oxford, Mass., in 1821. She became interested in the relief of the wounded and sick during the American Civil War, when she went to the front as an army nurse. In 1869, while in Switzerland, she took part in the Convention which resulted in the formation of the International Red Cross Society, and it was mainly due to her efforts that in 1881 the United States became a party to the Geneva Convention. Miss Barton was in Europe when the Franco-Prussian War broke out, and went to the front,

serving throughout the war. She took part in the relief work at Strasburg, Belfort, Montpellier, and at the siege of Paris, and received the Cross of Merit from the Emperor of Germany for her services. During the Spanish American War Miss Barton, who was then nearly 80 years of age, went to Cuba and directed the work of the society on the field. Miss Barton inherited a large fortune from her father, who died in 1861. For many years she bore a large share of the expenses of the Red Cross organisation. She extended the scope of the society to include, in addition to work on the battlefield, the relief of suffering in times of great national calamity. Miss Barton resigned the presidency of the American Red Cross Society in 1904.

The American Proctologic Society.

This society will hold its fourteenth annual meeting at Atlantic City, N.J., on June 3rd and 4th, under the presidency of Dr. John L. Jelks, of Memphis, Tennessee, when several interesting papers will be read. Among those in the preliminary programme may be mentioned "The Three-Step Operation in Tumours of the Sigmoid and Colon," by Dr. James P. Tuttle, of New York; "A Study of Cases of Constipation by the Use of the Roentgen Ray," by Dr. Arthur F. Holding, of New York; "Observations on the Relationship between Tuberculosis and Peri-rectal Suppurations," by Dr. Collier F. Martin, of Philadelphia; "Colonic Dilatation (Congenital and Acquired) as a Factor in Chronic Intestinal Obstruction (Obstipation)," by Dr. Samuel G. Gant, of New York; "Differential Diagnosis of Ulcers of the Rectum," by Dr. Leon Straus, of St. Louis; "Rectal Carcinoma," by Dr. J. Rawson Pennington, of Chicago; and "Reflex Disturbances Referable to the Rectum," by Dr. T. Cnittenden Hill, of Boston.

April 27th.

Obituary.

WILLIAM COULTER, M.D., M.CH. R.U.I., M.R.C.S. ENG.

Dr. William Coulter, for many years one of the best known and most popular residents in Calcutta, died at his residence, Highwick, near St. Albans, on April 22nd, at the age of 64. His constitution had been undermined by hard work and long residence in India, and he had been in ill-health for several years. He was the son of the Rev. George Bartlay Coulter, vicar of Frankford, Castleblayney, Ireland. He was educated at Belfast and at Trinity College, Dublin. He took the degrees of M.D., M.Ch., Royal University of Ireland, in 1870, and became a Member of the Royal College of Surgeons of England in 1871. After holding various hospital appointments and obtaining some insight into private practice he went out to India in 1873, and for seven years practised in Cachar. From Cachar he made frequent visits to Calcutta, and he saw that there was an opening for a non-official medical man in that city. He determined to practise in Calcutta, but he felt the need of greater knowledge and wider experience if he was to make himself a success. He therefore took the bold step of returning to study in London. He entered at St. Thomas's Hospital in 1881, and worked there in the wards and out-patient departments under such teachers as Bristowe, Ord, Sydney Jones, MacCormac, and Nettleship. He also joined the practice of Moorfields Hospital, and gained a thorough knowledge of eye diseases. He held the posts of house surgeon and clinical assistant at that hospital and he found the experience he had gained at Moorfields invaluable in after life. After three years of strenuous post-graduate work in London Dr. Coulter felt he was ready to start in practice in Calcutta, and in 1884 he put up his plate in Harrington-street in that city. For a time he had up-hill work, but in a few years he was conducting one of the largest practices in India. The secret of his success was his thoroughness and his ability. His geniality and Irish humour, his kindness and his sympathy, won him friends everywhere. When success came to him his strong constitution enabled him to get through an enormous amount of work. He gave the best of his energies in the service of charitable institutions. In his younger days he was a keen sportsman; he was a good shot, a fearless horseman, and one of the best polo players in India. There is no doubt he overworked himself, but he had his reward in the affection and gratitude of a very large circle of friends and patients. He was a man of keen intellect, and held strong and decided opinions on most matters, and he had always the courage of his convictions. In 1903 Dr. Coulter retired, after 20 years' practice, and settled near St. Albans, but his health broke down, and after a long illness, borne with courage and fortitude, he passed away. He leaves a widow and one son, who was recently gazetted to the 5th Lancers.

DEATHS OF EMINENT FOREIGN MEDICAL MEN.—The deaths of the following eminent foreign medical men are announced:—Dr. Merlin, formerly Director of the French Naval Medical Service.—Dr. G. E. Schneider, lecturer in the Val de Grâce Medical School.—Dr. Hagbarth Ström, professor of surgery in the University of Christiania.—Dr. Heinrich Unverricht, director and senior physician of the Sudenburg Hospital, Magdeburg. He studied and graduated in Breslau, and in 1886 was appointed extraordinary professor and director of the Medical Polyclinic in Jena. Two years later he was made professor of medicine in the Russian University of Dorpat (now called Iurieff). In 1892 he returned to Germany, being offered the important post in Magdeburg which he held for the rest of his life. He had a high reputation as a physician and published numerous papers on many clinical subjects. He wrote the articles on Diseases of the Diaphragm and Mediastinum for Ebstein and Schwalbach's "Handbook of Practical Medicine," and for some time edited the *Centralblatt für Innere Medizin*. He was only 58 years of age.—Dr. Theodor Gies, extraordinary professor of surgery in the University of Rostock, aged 66. He was a pupil and afterwards assistant to Professor Franz König. His published papers on surgical and pharmacological subjects are somewhat numerous.—Dr. Fritz Otto Becker, medical officer of the Britz Hospital, Berlin, from diphtheria, contracted from a child he was treating.—Dr. Alexander Adolf Böhn, prosector of the histological and embryological department of the Munich University Anatomical Institute.—Dr. A. Salomons, formerly inspecting medical officer, Surinam.—Dr. G. Luchtmans, at The Hague, formerly inspecting medical officer in Java, aged 77.

THE NATIONAL INSURANCE ACT.

BRITISH MEDICAL ASSOCIATION: THE NEW PLEDGE.

It was known that the new State Sickness Insurance Committee of the British Medical Association had in hand the organisation of the profession in view of the possibility that medical benefit under the Insurance Act might be suspended or otherwise administered contrary to the expressed wishes of the profession; but the sudden publication in the lay press of the terms of the Association's new pledge has given rise to a good deal of public excitement. This declaration is being submitted to the profession through the organisation of the Association in order that it may be signed by medical men throughout the country and placed in the hands of the local Provisional Medical Committees.

Each practitioner is invited to place in the hands of the local secretary his resignation of any contributory contract practice appointments in so far as they extend to insured persons, and to undertake not to accept any such appointment so resigned, and to place himself generally in such matters under the direction of the State Sickness Insurance Committee. He is also asked, in the event of the medical provisions of the Insurance Act coming into operation in opposition to the terms and conditions approved by the profession, not to render professional services to an insured person through any voluntary medical charity except in cases of urgent necessity, and not to coöperate with any member of the profession who is under contract to render medical service to insured persons upon terms not approved by the profession.

No use is intended to be made of the forms of resignation received by the Provisional Medical Committees until in the opinion of the State Sickness Insurance Committee the time is ripe for an effectual simultaneous use of them all over the kingdom. It is not intended that the resignations so sent in should take effect before Jan. 15th, 1913, the date announced for medical benefit under the Act to come into operation, but it may be found advisable that they should be sent *en bloc* to

the bodies concerned by the Provisional Medical Committees on June 30th, 1912, thus giving six months' notice.

LEWISHAM PROVISIONAL MEDICAL COMMITTEE.

AT a meeting of this committee on May 2nd, at Catford, it was decided to adopt the form of pledge and form of resignation issued by the British Medical Association, and a personal canvass for signatures of those actually practising in the borough of Lewisham was undertaken. A general meeting of the local profession was arranged for May 9th to obtain more signatures. The local committee in its personal canvass had been most successful.

Medical News.

FOREIGN UNIVERSITY INTELLIGENCE.—*Halle:* Dr. O. Baumgarten, *privat-docent* of Medicine, has been granted the title of Professor.—*Marburg:* Dr. Peter Esch, Oberarzt of the University Gynæcological Clinic, has been granted the title of Professor. Dr. Martin Schenck has been recognised as *privat-docent* of Physiology, and Dr. Hübner as *privat-docent* of Dermatology.—*Vienna:* Dr. Otto Mayer has been recognised as *privat-docent* of Otology.

NURSING AND MIDWIFERY CONFERENCE.—The Fifth Annual Nursing and Midwifery Conference and Exhibition took place recently at the Horticultural Hall, London. The speakers included Dr. A. B. Bradford, Dr. C. W. Saleeby, Mr. A. M. Brice, barrister-at-law, Dr. Prudence Gaffikin, Dr. Marion Andrews, Alderman Broadbent, and many well-known nurses. Dr. Bradford, speaking of nursing homes, warned his hearers against the illegitimate practices resorted to by some proprietors who engaged half-trained nurses at a salary of £24 a year and sent them out to patients at 3 guineas a week; another method of making money was to feed the nurses on 6*s.* per head a week. The speaker suggested that in running a nursing home successfully it was the little things that mattered—vexatious rules about the reception of visitors, &c. Why should not patients see their friends when they wanted to so long as it did not interfere with the treatment? Patients should have anything they wanted if they paid for it; it was quite easy to have telephones fitted in the sick-room, and was a great boon to patients at a comparatively small cost. The cooking in these establishments was a most important feature; it always paid to have a really first-class cook at £120 or £140 a year—a French chef who understood his business and avoided the waste which English cooks indulged in. On the question of infant feeding many various and opposed opinions prevailed. Dr. Eric Pritchard inveighed against the inadequacy of the midwife's training in this particular, though he admitted it could not be squeezed into the present three months' course. Dr. A. Dingwall Fordyce, on the other hand, gave the impression that what nurses—and infants—suffered from was over-training, and commended the latter to the care of the common-sense woman. Alderman Broadbent read a thoughtful and suggestive paper on the advantages to be gained by a closer relationship between the municipal health authorities and midwives in the prevention of infantile mortality, and his ideas were further emphasised by subsequent speakers in the same session, Mrs. Greenwood and Mrs. Barnes, one speaking from the point of view of the sanitary inspector, the other from that of schools for mothers. It was pointed out that for a period of five years, from the notification of birth until school age, the child was ignored. Then the State woke up again to its existence and became almost hysterically excited over the condition of its eyes, ears, nose, and throat. Coöperation among the agencies now at work, with some addition to their machinery, would remedy this and keep the child in touch with health workers right through childhood until it was old enough to become a contributor under the Insurance Act. Miss Steer, inspector of midwives for Nottingham, spoke of the value of the midwife's work in the prevention of disease, but in order to carry out all the suggestions it would seem necessary to include a course of sanitary instruction in the midwife's curriculum, such as exists in the training of "Queen's" nurses. With Dr. Jane Walker in the chair, a most interesting paper on Modern Methods in the Treatment of Tuberculosis was read by Dr. Esther Carling, who sounded a warning note against the employment of tuberculin by inexperienced practitioners. "Psychology" and the Insurance Act were included in this session, and Dr. Saleeby gave an address on eugenics, directing his remarks chiefly to the preparation for, and the preservation of, new life.

THE AFTER-CARE ASSOCIATION.—The annual report of this association, which was founded for the purpose of assisting poor persons discharged recovered from asylums for the insane, shows a satisfactory continuance of good work. For the year ending December, 1911, 399 applications were made for assistance, and of these 221 were women and 178 were men. The total income of the association for 1911 was £1353 11*s.* as compared with £1197 14*s.* 10*d.* for 1910, but the extension of the operations of the association makes urgent an increase of subscriptions and donations.

THE BRISTOL CHILDREN'S HOSPITAL.—The annual meeting of the ladies' auxiliary in connexion with the Royal Hospital for Children and Women was recently held under the presidency of the Duchess of Beaufort. The financial statement showed that during the year £979 had been collected and £914 had been handed over to the authorities of the institution.

ASYLUM WORKERS' ASSOCIATION.—The annual general meeting of this association will be held at 11, Chandos-street, Cavendish-square, London, W., on Wednesday, May 22nd, at 3.30 P.M., when the meeting will be addressed by Sir William Collins, M.D. (President), Sir John Jardine (President-elect), and others.

APPLICATIONS for the Edith Pechey-Phipson Post-Graduate Scholarship of the value of £40, open to competition among medical women only, should be sent by the end of May to the honorary secretary, Miss E. M. Slater, 33, Chepstow Villas, London, W.

THE ROYAL SOCIETY.—The first annual conversazione of the Royal Society was held on Wednesday last at Burlington House, when Sir Archibald Geikie received a number of distinguished guests and Fellows. We hope to review some of the exhibits next week.

THE Research Hospital at Cambridge will be opened on May 24th, at 3 P.M., by Dr. R. C. Brown.

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS.

The Select Committee on Patent Medicines.

THE Select Committee of the House of Commons, which has been entrusted with the investigation of certain matters in connexion with the sale of patent medicines, has elected Sir HENRY NORMAN chairman. Arrangements have also been made by the Committee to secure the submission of evidence bearing on the subject of the inquiry.

HOUSE OF COMMONS.

WEDNESDAY, MAY 1ST.

The Site of the University of London.

Mr. MCCALLUM SCOTT asked the Prime Minister whether he would state to whom the anonymous gift had been made towards the acquisition of a site and new buildings for the headquarters of the University of London; whether a condition attached to the offer was that a particular site was to be acquired; whether the particular site in question was that of four plots on the Bedford estate to the north of the British Museum; whether the price asked for that site was £375,000; and whether he would state the value placed on that site by the London County Council.—Mr. ASQUITH replied: I am informed that various sums of money have been offered anonymously to Lord Haldane on behalf of the trustees proposed to be appointed. Some of these offers were made conditionally upon the purchase of a particular site. The answer to the third part of the question is in the affirmative. As regards the fourth part, I understand that a less sum than that mentioned by the honourable Member will be accepted. I am not aware that the question of the value of the site referred to has ever come before the London County Council.

Medical Benefits under the Insurance Act.

Mr. LLOYD GEORGE, in speaking on Mr. Grant's motion in relation to medical benefits under the Insurance Act, made (as briefly reported in THE LANCET of last week) a speech on the position of the medical profession. He said, in the course of his speech, that the House of Commons when it considered a problem of the character raised by the motion ought not to confine itself merely to making the health of the community the sport of party. The right honourable gentleman (Sir Robert Finlay) had been good enough to suggest that the Insurance

Bill had been introduced without any consultation with the medical profession. Who told him that?

Sir ROBERT FINLAY: I said "without adequate discussion."

Mr. LLOYD GEORGE: Who told the right honourable gentleman that?

Sir ROBERT FINLAY: It is perfectly plain and obvious.

Mr. LLOYD GEORGE: The right honourable gentleman has no information on the subject. He does not know whom we saw. He does not know what conferences were held. Does he know that we saw the British Medical Association not once or twice before the Bill was introduced?

Sir ROBERT FINLAY: My objection was that the right honourable gentleman's information was inadequate as to the feeling of the medical profession.

Mr. LLOYD GEORGE: This is a reflection not on me, but upon the deputations that have been to see me. I am not casting any reflection upon them. They came to see me. I gave them as much time as they asked. When they asked to see me a second time I saw them, and when they asked to see me privately afterwards I saw them. The right honourable gentleman says that they did not give me adequate information. I do not agree with him. I think that they gave me all the information in their power. The difficulty arose, the right honourable gentleman proceeded, from the conflicting interests of which he had to take account—the medical profession on the one side and the Friendly Societies on the other. When the Bill was introduced the medical profession were undoubtedly very alarmed because they were under the delusion that it was going to enforce contract practice upon the whole country. There was not a word in the Bill about contract practice, not a word that would enforce it. After the Bill was introduced he had had endless consultations with the medical profession. He met them as a body through the British Medical Association. He met their representatives constantly and incessantly, and he had to negotiate some sort of arrangement between them and the societies. That was the difficulty throughout, and he had to do his best to adjust the different views of the various parties. Even to-day he had received a letter from the British Medical Association asking the Insurance Commissioners whether if the Council passed a resolution inviting a conference before the Advisory Committee met, they would be prepared to meet them. The Insurance Commissioners answered instantly that they would be delighted to meet them. Of course they would be delighted to meet them, and they had always been delighted to meet them. The only quarrel that they had had with any body of medical men was that they declined absolutely to meet the Commissioners when invited to do so. This did not apply to the British Medical Association. What did the medical profession do after the Bill was introduced? They formulated a series of demands. He thought that he was right in saying that 75 per cent. of those demands were embodied in the Bill so far as it was possible to embody demands of that character in a Bill at all. The Government could not embody in an Act of Parliament a schedule of prices. When there were demands which must vary in different localities, the best that could be done was to set up machinery for the purpose of settling them. They set up machinery to fix the minimum demand, and they could not fix the maximum. They put into the Bill the very machinery for which the British Medical Association had asked. That had never been acknowledged. Then the medical profession asked for an appeal from the Insurance Committees upon every contract that was entered into. They asked for representation upon the Local Insurance Committees and they had got it. They asked that recognition should be given to a local organisation of medical men in each district, and that the Local Insurance Committee should be compelled to consult that body before the contract was entered into. The Government agreed to that. There was not, so far as he could recollect, a single demand made by the medical men with regard to the character of the machinery which was to fix terms, which the Government did not agree to. Surely that ought to be recognised when honourable Members came to criticise the attitude of the Government towards the doctors. They asked that the remuneration rate should not be fixed in the Bill, and they were perfectly right. It would not have worked well from their point of view. A clause was put into the Bill enabling the committees to fix the income limits. Everybody recognised that an income limit could not be enforced throughout the kingdom. The income limit was a matter to be discussed in the localities, and regard must be had to the wages of the district and the conditions under which medical practice had been carried on in the past. He agreed that there had been a good deal of discontent with contract practice. He was not going to say that it was not justified in many cases. In fact, he did say that it was justified in many cases. He had no hesitation in saying that the payment in some districts was a perfect scandal. It was not merely a pecuniary objection, but it was a professional one, when a doctor felt that he could not under the conditions do justice to his profession. He was enabled to do this contract practice work because he had other practice on which he depended for an income. Therefore, he would not for a moment attempt to defend certain forms of contract practice and he would not pretend that the price given to doctors in a great many districts was any return for the most valuable services which one man could give to another. He could not defend the system of contract practice as a general rule. All he would say was this—and he felt that he could challenge contradiction on the point—there was no honourable Member in the House who would say that it was possible to put an end to contract practice by an Act of Parliament. There were large districts where it was rooted in the very habits of the people, and where the doctors preferred it. In other districts contract practice would be absolutely unsuitable. The people were not accustomed to it. The doctors were not accustomed to it, and they would take to it very reluctantly. He did not think it to be a good plan. There was nothing in the Insurance Act which enforced contract practice anywhere. The Act did not prescribe contract practice anywhere. It simply said that there should be provision for medical attendance. He had no desire to extend contract practice, and he never introduced this Act of Parliament with the intention of extending contract practice. He was asked what courses were open for the medical profession. First of all, where contract practice prevailed at the present moment under such conditions as the medical profession were prepared to proceed with it, it ought to be put on a fair and equitable basis. In some cases the pay was insufficient, and the negotiations which took place between the medical profession on the one hand and the Insurance Committees and the Insurance Commissioners on the other, ought to ensure that the medical profession got a fair return for their great services in these districts. Now there was the second case, where the medical profession would not agree to contract practice and where contract practice was unsuitable. He knew that there were parts of Lancashire where under no condition would the medical profession agree to contract work, and where, so far as he could see, there was no desire on the part of the working classes to compel contract work, where both parties preferred to go on as they were, the patients employing the medical man of their choice and paying for services rendered. There were two methods by which the Act met a case of that kind and they were both—at least one—in operation in various parts of Germany. It was that all the money which was available under the Insurance Act in a particular district for medical work should be put into a pool very largely under the control of the medical profession, and at the end of the year or at the end of six months, according to the convenience of the profession, all bills for medical attendance upon insured persons should be sent in to that fund, and the money should be divided amongst the profession in proportion to the bills which were sent in. If the medical profession formed their own committee they would constitute a check upon each other, which was very important in order to work a system of that sort fairly, otherwise one medical man might send in a much larger bill than he would have sent in if he was sending it to the patient himself, merely in order to get his proportion from the pool, and get by that means the whole of his payment from the common fund. If there was a deficiency, that deficiency was made up by the patient himself. The third method was that the sum of money which was set aside for medical attendance should be returned to the individual. The next course was that the contribution should be paid to the society itself.

An HON. MEMBER: That is not in the Act.

Mr. LLOYD GEORGE: Certainly it is. At any rate, that is the advice that is at the disposal of the Government, and I can assure the House it is advice worth paying some little heed to. The six shillings was paid to the society and the society pooled the amount and made its own arrangements. Some friendly societies made the arrangement with their medical attendants. Other societies made arrangements with dispensaries in the districts and paid over the whole of the sum which was at their disposal for medical attendance to these local dispensaries which employed whole-time doctors. That was a system under which thousands of working men were at present being attended to. He agreed from figures which had been put before him by the British Medical Association, that in some of these cases the doctors were very inadequately paid. He had come to that conclusion after hearing both sides. There were others of the doctors fairly well paid. However, the Act did this. The average paid by the Friendly Societies and by these dispensaries at present was 4s. per member, including drugs. This Act enabled that sum to be raised by 50 per cent. to improve the quality of the drugs, and even provide more medical aid than was provided at present. These were the four courses which were open to the Commissioners and the medical profession. The right honourable gentleman then referred to the report of the Committee on Tuberculosis. The report meant that the whole burden and expense of curing tuberculosis was put outside the ordinary contract practice of the ordinary normal arrangements between the society and its doctors.

Mr. PEEL: All the cases?

Mr. LLOYD GEORGE: Yes, all the cases. That is the recommendation of the Committee. That made an enormous difference to a doctor. This was an extra which he hoped that the medical profession would bear in mind. What he wanted to put to the House was this. He did not wish to dogmatise as to the best method of settling this question of medical benefit. All he wished to say was that he hoped that the House would not interpose any obstacles in the way of a practical settlement which would be satisfactory to all parties. It was the sincere desire of the Government to meet the legitimate wishes of the medical profession. They were in negotiation with them. They had set up as promised an Advisory Committee consisting of employers and employees, and representatives of the friendly societies and of the medical profession. There were 33 members of the medical profession on that Advisory Committee out of 161. That was a very considerable proportion. The Advisory Committee could appoint subcommittees to deal with these matters and on these the medical representation would be considerable. Then problems arising under the Act would be considered by a body of experts who would be perfectly impartial. The Government had not chosen the representatives. They had added some, it was true, but the bulk had been chosen by the associations themselves, and he thought that all the employers' associations had chosen their own representatives. There was thus a body quite impartial to the medical profession. Honourable Members must wait their report before they pronounced any opinion on the best methods. He did not think that this was an unreasonable demand to make, and he appealed not only to the House of Commons but to individual members during the next few weeks to assist in bringing those negotiations to a successful conclusion rather than to put obstacles in the way. He was certain that there would be a patriotic response to that appeal. After all, it was a matter of very great consequence, not only to this great profession but also to the 15,000,000 insured persons and their families, that the best medical attendance should be given. He would like to say nothing about the demands of the medical men except this. Everybody, he thought, would agree that an addition of £3,000,000 to the existing provisions made by the Act was a demand which even the friends of the medical profession would regard as excessive. He was not complaining that they should put forward their highest demands. It was a subject for negotiations. The Government would enter into those negotiations with a view to seeing that the profession was adequately remunerated for the very great onerous and responsible work which was cast upon it. He wanted the House and all those engaged in this great controversy to remember that they must take into account not merely the interests of the profession, which were great, but they must also take into account the interests of those millions of people who were insured persons. He could not help feeling that if on all sides they had the negotiating temper all this could be done. He had had the pleasure of meeting the representatives of the medical profession when they were discussing the question of machinery, and whatever controversy there might have been outside, these negotiations were always conducted in a friendly and practical spirit, and he was sure the same thing would happen again. He did not say that it would be possible to get through an arrangement with the medical profession without

inviting the House of Commons to make some additional provision for medical attendance. He did not express any opinion on that subject. That was a matter which would be made clearer when these negotiations were embarked upon. He went on to point out that the insurance as a whole was not necessarily dependent on medical attendance. Honourable Members must bear in mind that there was a very considerable pressure brought to bear upon the Government now by Friendly Societies representing millions of members to have the money for medical attendance handed over to them and to leave it to them to deal with the doctors in their own discretion. For his part he thought that it was far better that the arrangements should be made, if possible, by the machinery which was provided in the Act, because it was machinery which provided elaborate precautions for the purpose of protecting doctors against any unfair bargains being imposed upon them, through competition amongst themselves. If the terms of the Friendly Societies were low, if there were any terms paid by the Friendly Societies which sweated the doctors at the present moment in any district, the doctors themselves were largely to blame. There were districts where doctors had undertaken to do the work for half-a-crown a patient. It was not merely the Friendly Societies that were to blame. It was the competition amongst the medical men themselves. He thought honourable Members would admit that.

Sir HENRY CRAIK: No, it was done in charity and there were no other means of helping these people.

Mr. LLOYD GEORGE: I would be the last man in the world to deprecate the charity of the doctors. I know the enormous sacrifices which they make. They attended (the right honourable gentleman continued) patients whom they knew perfectly well could never pay them. He knew of doctors who had gone to patients against whom they had large bills on their books, and had attended them although they knew that they would not be paid. However, what he did say was that many of these cases of low payments to medical men had been due entirely to competition. He had no objection to accept the motion.

The motion was agreed to.

THURSDAY, MAY 2ND.

Workmen's Compensation and Carbon-monoxide Poisoning.

Mr. GEORGE ROBERTS asked the Secretary of State for the Home Department whether the inquiry into diseases which should be scheduled under the Workmen's Compensation Act would include carbon-monoxide poisoning; and, if not, whether he would consider the desirability of extending the scope of the inquiry to admit of this being done.—Mr. MCKENNA answered: The inquiry does not include carbon-monoxide poisoning. The previous committee which inquired into the subject of the application of the Compensation Act to industrial diseases reported that the evidence was to the effect that poisoning by carbon-monoxide gas was almost invariably sudden, and therefore as an accident entitled the injured person to compensation. They held that they had no sufficient evidence of slow poisoning by carbon-monoxide to show that it could be regarded as a trade disease. Attention was called by my honourable friend in 1909 to a case which appeared to be one of gradual poisoning by the gas, and the matter has been carefully watched since. No further cases, however, have come to light, nor has any fresh evidence on the subject been obtained. In the circumstances it does not seem that anything would be gained by reopening the question.

The Milk Bill.

Mr. CHARLES BATHURST asked the President of the Local Government Board whether it was still his intention to re-introduce the Milk and Dairies Bill this session; and, if so, whether he could state when he proposed to do so?—Mr. BURNS replied: The answer to the first part of the question is in the affirmative. I cannot yet fix a day for the introduction of the Bill.

The Prevention of Tuberculosis.

Mr. COURTHOPE asked the Secretary to the Treasury whether the Commissioners responsible for the National Insurance Act would consider the adoption of preventive measures, including those affecting bovine tuberculosis, such as the provision of compensation for the slaughter of cattle suspected of being tuberculous.—Mr. MASTERMAN wrote in reply: The Commissioners responsible for the administration of the National Insurance Act are, strictly speaking, only concerned with the provisions necessary for the detection and proper treatment of tuberculosis when occurring among insured persons and their dependents. Other Government departments are, however, concerned with preventive measures affecting the whole population, and I will see that the suggestion of the honourable Member is brought before them.

MONDAY, MAY 6TH.

Grants for Medical Treatment of School Children.

Mr. HAYES FISHER asked the Chancellor of the Exchequer whether his attention had been directed to the regulations recently issued by the Board of Education relating to the distribution of grants in the year 1912-13 to local education authorities in respect of medical treatment of children attending public elementary schools, and to the principles on which the said new grants were to be allocated as therein laid down; and whether he would take steps to provide that the distribution of sums of money granted by this House in relief of services of a national character administered by local authorities should not be left to the unfettered discretion of a Government department.—Mr. LLOYD GEORGE replied: The regulations referred to were approved by the Treasury. The regulations left the distribution of grants to the discretion of the Board of Education, because it was impossible to forecast the number of participants and consequently to settle a basis on which the grants could fairly be allocated, but I hope that next year some basis may be arrived at in the light of the experience then available.

The Case of William Ball.

Mr. LYNCH asked the Secretary of State for the Home Department whether he was in a position to make a statement in regard to the investigation of the case of William Ball, who became insane while in Pentonville Prison and who was removed to Colney Hatch Lunatic Asylum.—Mr. MCKENNA answered: I have laid the report of Sir George Savage on this case on the table and it will be circulated at once. I think that the honourable Member will find that it renders any statement by me unnecessary.

Motor Ambulances in London.

Mr. EDWARD STRAUSS asked the Secretary of State for the Home Department whether he was aware that the apparatus for dealing with street accidents in the metropolitan police districts was inefficient, and whether he would consider the advisability of instituting for the metropolitan police district the system of motor ambulances now working so satisfactorily in the City of London.—Mr. MCKENNA answered: The metropolitan police have a very efficient system of hand ambulances, but in view of the powers conferred by Parliament on the London County Council I do not think the police could properly undertake the provision of motor ambulances. The Metropolitan Ambulances Act, 1909, gave the London County Council power to establish a service of motor ambulances.

The British Medical Association and the Insurance Bill.

Mr. W. PEEL asked the Chancellor of the Exchequer how many deputations he received from the British Medical Association before the introduction of the National Insurance Bill on May 4th, 1911, and on what dates; did he, before the introduction of the Bill, invite representations from the British Medical Association; and did he afford the Association any opportunity of becoming acquainted before May 4th with the special provisions of the Bill affecting the medical profession.—Mr. LLOYD GEORGE wrote, in reply: I interviewed members of the medical profession on several occasions before the introduction of the Bill on the question of the medical arrangements under the Bill. On three separate occasions I received deputations during the months of March and April, 1911, at the request of the British Medical Association.

The Medical Profession and the Insurance Act.

Mr. W. PEEL asked the Chancellor of the Exchequer what steps he proposed to take to carry out the terms of the resolution moved by the honourable Member for West Cumberland on Wednesday last with regard to the coöperation of the medical profession in working the National Insurance Act, and accepted by him on behalf of the Government.—Mr. MASTERMAN (the Secretary to the Treasury) furnished the following written reply: Since the passing of the Act the Commissioners have invited all representative bodies of the medical profession to confer with them with a view to securing their coöperation in arrangements for the working of the Act, and are prepared to consider any representations which any section of that profession may desire to place before them. The meetings of the Advisory Committee appointed to assist the Joint Committee of Insurance Commissioners in the preparation of regulations will begin on Friday next and will be proceeded with as rapidly as possible. Among the regulations to be considered in due course will be those relating to medical benefit. In the drafting of these the medical members of the Advisory Committee, who include 12 representatives nominated by the British Medical Association, will have full opportunity of presenting the case of the profession for the consideration of the Commissioners.

TUESDAY, MAY 7TH.

The Medical Profession and the Insurance Act.

Mr. W. PEEL had on the notice paper the two questions to which on the previous day answers had been circulated by the Chancellor of the Exchequer and the Secretary to the Treasury.—Mr. LLOYD GEORGE said in reply: I have nothing to add to the answers which have been circulated. However, I have to say that in addition to the deputations to which I have already referred, I received a deputation from members of the medical profession in my room at this House in the beginning of the year 1911.

Mr. PEEL asked whether it was not a fact that the medical men had been appointed to the Advisory Committee so long ago as March 16th, and the first meeting of the Committee would only take place on next Friday.—Mr. LLOYD GEORGE replied that the reason of the delay in the meeting of the Advisory Committee was due to the fact that it did not consist merely of members of the medical profession, but of representatives of employers, Friendly Societies, trade unions, and several other bodies.

Sanatorium Accommodation.

Mr. WRIGHT asked the President of the Local Government Board what steps had been taken to collect information as to what accommodation in existing sanatoriums or other institutions would be available on July 15th, 1912, for the use of persons entitled to sanatorium benefit on that date.—Mr. BURNS said in reply: In December last I directed a form to be sent to each medical officer of health in England and Wales asking for information as to the number of beds provided for the treatment of cases of phthisis in his district, and as to the arrangements for the use of such beds. Over 1750 of the 1800 forms which were issued have been returned, and from these it would appear that, apart from beds in Poor-law institutions, and excluding beds for which 30*s.* a week or more is charged, nearly 4000 beds have been provided. I am not aware what proportion of these beds could be approved for the reception of cases under the National Insurance Act, nor can I say how many of these beds will be unoccupied on July 15th next. It is proposed to ask the councils of counties and county boroughs to organise schemes of treatment, either separately or in combination; and in the organisation of schemes it will be necessary for them to take into account any existing suitable accommodation and to consult other local authorities and bodies who may be interested.

Medical Inspection of School Children in Scotland.

Lord HENRY CAVENDISH-BENTINCK asked the Chancellor of the Exchequer whether local education authorities in Scotland received half the cost of medical inspection out of funds provided by taxation and, in addition, would receive a special grant for medical treatment; and, if so, would he explain why in England it was only proposed to distribute a grant for treatment.—Mr. LLOYD GEORGE answered: School Boards in Scotland receive half the cost of medical inspection out of the Education (Scotland) Fund, constituted under the Education (Scotland) Act, 1908. This fund consists of a number of grants which form, generally speaking, the Scottish equivalent to grants otherwise allocated in England.

Brompton Cemetery.

Sir HENRY KIMBER asked the Secretary of State for the Home Department whether his attention had been called to the fact that the Brompton Cemetery, which was acquired by the Government in 1852 when burial grounds within the metropolis were closed, was still being

used for burials, that a number of interments were taking place daily, that the ornamental flower beds were being now utilised for graves, and that charges were being made for them; and whether, seeing that the cemetery was situated in a very populous neighbourhood, and that 155,000 bodies had already been interred therein 20 years ago, he would consider the advisability, from a sanitary point of view, of closing the cemetery for further interments.—Mr. WEDGWOOD BENN (on behalf of the Office of Works) wrote in reply: The First Commissioner cannot, without breach of contract, prevent further interments taking place in plots already sold. The number of burials is gradually decreasing, and only a small area, situated in the middle of the cemetery, quite away from the houses, remains for new graves. There is no reason whatever to suppose that the conditions at present are insanitary.

WEDNESDAY, MAY 8TH.

Medical Men and the Insurance Act.

Sir PHILIP MAGNUS asked the Chancellor of the Exchequer whether his attention had been called to the terms of the pledge contained in a document addressed by the medical secretary of the British Medical Association to all members of the medical profession, whether engaged in club practice or not, and to the form of resignation of contract practice appointments now held by club doctors to be used in the event of the Commissioners being unable to arrange terms of practice satisfactory to the medical profession; and if so, what action he proposed to take; and whether, having regard to the document issued by the British Medical Association, it was still the intention of the Government to bring the Insurance Act into operation on July 15th of this year, notwithstanding the fact that any Act for the cure of sickness and prevention of disease could not become operative without the assistance and voluntary support of members of the medical profession.—Mr. LLOYD GEORGE replied: I am aware that statements have been made in the press as to a form of pledge which is alleged to have been issued by the British Medical Association to members of the medical profession in reference to conditions which were in existence before the Insurance Act was introduced, and which that Act neither extends nor perpetuates. The pledge appears only to relate to action to be taken if the Commissioners and Insurance Committees fail to come to agreement with medical men as to work under the Act. Negotiations will commence as soon as the Advisory Committee meets. The first meeting has been fixed for Friday next. Medical benefit does not commence until next January, and no decision on this matter is necessary before bringing into operation such portion of the Act as comes into effect in July. Moreover, the general operation of the Act cannot be affected by any decision as to the particular form medical benefit may take, whether the panel system with free choice of doctor, or the alternatives of special arrangements by the Insurance Committees or Commissioners with the approved societies, or the payment of a monetary equivalent to each insured person.

Lord BALCARRES: Do I understand that negotiations on this subject will begin on Friday next?

Mr. LLOYD GEORGE: Certainly.

Mr. F. HALL (Dulwich): Is the right honourable gentleman still of opinion that medical benefits should take place as from Jan. 15th next?

Mr. LLOYD GEORGE: Certainly.

Mr. JOHN WARD: In order finally to settle this matter can the right honourable gentleman not decide within a reasonable time to place a sum to the credit of each insured person?

Mr. LLOYD GEORGE: That is one of the possible alternatives.

Mr. JOHN WARD: Why not decide it at once?

No reply was given.

BOOKS, ETC., RECEIVED.

APPLETON, D., AND CO., New York and London.

Urology. The Diseases of the Urinary Tract in Men and Women. By Ramon Guiteras, M.D. Harv., Professor of Genito-Urinary Surgery, New York Post-Graduate Medical School. Two volumes. Price, cloth, 50*s.* net.

ARNOLD, EDWARD, 41 & 43, Maddox-street, Bond-street, London, W.

A Manual of Pharmacology. By Walter E. Dixon, M.A., M.D., B.Sc., B.Sc., D.P.H., F.R.S., Professor of Materia Medica and Pharmacology at King's College, London; University Lecturer in Pharmacology, Cambridge; Examiner in Pharmacology in the Universities of Cambridge and London. Third edition. Price 15*s.* net.

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Sleep and Digestion. By George Thomson, L.D.S., Honorary Dental Surgeon, Royal Hospital for Diseases of the Chest, &c. Price 1*s.* net.

Sahli's Tuberculin Treatment, including a Discussion of the Nature and Action of Tuberculin and of Immunity to Tuberculosis. By Dr. Hermann Sahli, Professor of Medicine in the University of Berne: Director of the Medical Clinic. Translated from the third German edition by Wilfred B. Christopherson. With an Introductory Note by Egbert Morland, M.B., B.Sc. Lond., M.D. Berne. Price 7*s.* 6*d.* net.

The Royal Dental Hospital of London. Annual Reports for 1911. Price 5*s.* net.

BRITISH ESPERANTO ASSOCIATION (INCORPORATED), 133-136, High Holborn, W.C.

The Passing of Babel, or Esperanto and its Place in Modern Life. By Bernard Long, B.A. Camb., Member of the Council of the British Esperanto Association. Price 6*d.* net.

CHURCHILL, J. AND A., London.

Volumetric Analysis for Students of Pharmaceutical and General Chemistry. By Charles H. Hampshire, B.Sc. Lond., A.I.C., Pharmaceutical Chemist; Demonstrator in Chemistry at the School of Pharmacy of the Pharmaceutical Society. Price 3*s.* 6*d.* net.

Pathology, General and Special. For Students of Medicine. By R. Tanner Hewlett, M.D., F.R.C.P., D.P.H., Professor of Bacteriology in the University of London; Lecturer on Bacteriology, London School of Tropical Medicine. Third edition. Price 10*s.* 6*d.* net.

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The Prescriber's Guide. A Classified List of Medicinal Preparations selected mainly from the British Pharmaceutical Codex (1911). For Use in Prescribing. Compiled by the Formulary Committee of the Edinburgh District Chemists' Trade Association, and edited by Thomas Stephenson, Ph.C., F.C.S., F.R.S.E. Price 1*s.* 6*d.* net. Interleaved with Ruled Vellum, 2*s.* net., post free.

FIFIELD, A. C., 13, Clifford's Inn, London, E.C.

Metred Playlets. By W. Winslow Hall, M.D. Price 1*s.* net.

FISCHER, GUSTAV, Jena.

Handbuch der pathogenen Mikroorganismen. Herausgegeben von Dr. W. Kolle und Dr. A. von Wassermann. Zweite vermehrte Auflage. Sechste und siebente Lieferung (Band IV., Bogen 9-22). Price M.5.

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Jenaer medizin-historische Beiträge. Herausgegeben von Prof. Dr. Theod. Meyer-Steineg. Heft I. Chirurgische Instrumente des Altertums. Ein Beitrag zur antiken Akiurgie. Von Dr. med. et jur. Theod. Meyer-Steineg, a.o. Professor an der Universität Jena. Gedruckt mit Unterstützung der Puschmann-Stiftung in Leipzig. Price M.5.

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Oxford Medical Publications. Tuberculin Treatment. By Clive Riviere, M.D. Lond., F.R.C.P., Physician, East London Hospital for Children, Shadwell, and Egbert Morland, M.B., B.Sc. Lond., M.D. Berne, of Arosa, Switzerland. Price 5*s.* net.

Oxford Medical Publications. Gonococcal Infections. By Major C. E. Pollock, Royal Army Medical Corps, and Major L. W. Harrison, Royal Army Medical Corps. Price 5*s.* net.

Oxford Medical Publications. Diseases of the Eye. By M. Stephen Mayou, F.R.C.S., late Hunterian Professor, R.C.S., Surgeon Central London Ophthalmic Hospital. Second edition. Price 5*s.* net.

Oxford Medical Publications. Salvarsan in Syphilis and Allied Diseases. By J. E. R. McDonagh, F.R.C.S., Surgeon to Outpatients, London Lock Hospitals. Price 7*s.* 6*d.* net.

Oxford Medical Publications. Common Disorders and Diseases of Childhood. By George Frederick Still, M.A., M.D. Cantab., F.R.C.P. Lond., Professor of Diseases of Children, King's College, London, Physician for Diseases of Children, King's College Hospital. Second edition. Price 16*s.* net.

The Care of the Skin in Health. By W. Allan Jamieson, M.D., F.R.C.P.E., Knight of Grace of St. John of Jerusalem, Surgeon, the King's Body-Guard for Scotland, the Royal Company of Archers, Consulting Physician for Diseases of the Skin, Edinburgh Royal Infirmary. Price 2*s.* 6*d.* net.

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Methods of Air Analysis. By J. S. Haldane, M.D., LL.D., F.R.S., Fellow of New College, and Reader in Physiology, University of Oxford. Price 5*s.* net.

The Prevention and Treatment of Disease in the Tropics. A Handbook for Officials and Travellers, compiled chiefly for the Use of Officials in the Sudan. By Edwin S. Crispin, M.R.C.S., L.R.C.P., F.R.G.S., Fellow of the Society of Tropical Medicine and Hygiene, Assistant Director of the Sudan Medical Department. Price 1*s.* net.

HEINEMANN, WILLIAM, 21, Bedford-street, London.

Divorce. By Earl Russell. Price 2*s.* 6*d.* net.

HOEPLI, ULRICO, Milano.

Manuali Hoepli. Semeiotica Fisica e Funzionale. Breve Compendio dei Metodi di Esame degli Infermi. Del Dott. Umberto Gabbi, Professore ordinario di Clinica Medica nella R. Università di Messina. Seconda Edizione, completamente rifatta ed accresciuta. Price L.3.50.

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A Manual of Surgical Treatment. By Sir W. Watson Cheyne, Bart., C.B., D.Sc., LL.D., F.R.C.S., F.R.S., Hon. Surgeon in Ordinary to H.M. the King, Senior Surgeon to King's College Hospital; and F. F. Burghard, M.S. Lond., F.R.C.S., Surgeon to King's College Hospital. New edition, entirely revised and largely rewritten with the assistance of T. P. Legg, M.S. Lond., F.R.C.S., Surgeon to the Royal Free Hospital; and Arthur Edmunds, M.S. Lond., F.R.C.S., Surgeon to the Great Northern Central Hospital. In Five Volumes. Vol. II. Price 21s. net.

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Le Liquide Céphalo-Rachidien Normal et Pathologique. Valeur Clinique de l'Examen Chimique. Syndromes humoraux dans les Diverses Affections. Par W. Mestrezat, Docteur en Médecine, Licencié ès Sciences, Chef des Travaux de Chimie à la Faculté de Médecine de Montpellier. Price Fr.12.

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OFFICINA POLIGRAFICA ITALIANA, Roma.

Ministero della Marina. Ispettorato di Sanità. Statistica Sanitaria dell'Armata per gli Anni 1907 e 1908. Price not stated.

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SARMÁ, PANDIT KRIPÁRÁM, 8, Nandi Bagan Lane, Salkea, Howrah, India.

Leprosy and its Treatment. By Pandit Kripárám Sarmá. Third edition. (Printed by N. L. Nundy, at the Universal Press, 27, Ramkrishnapur Ghat Road, Howrah.) Price not stated.

SAVAGE, G. C., 137, Eighth Avenue, North, Nashville, Tenn., U.S.A.

Ophthalmic Myology. A Systematic Treatise on the Ocular Muscles. By G. C. Savage, M.D., Professor of Ophthalmology (Defects of the Eye) in the Medical Department of Vanderbilt University. Second edition. (Printed by McQuiddy Printing Company, Nashville, Tenn.) Price not stated.

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No. 49. Epidemic Dropsy in Calcutta. Being the Final Report of an Enquiry carried out by Major E. D. W. Greig, M.D., D.Sc., I.M.S., under the Direction of the Director, Central Research Institute, Kasauli. Price, Re.1.8, or 2s. 6d.

TÉQUI, PIERRE, 82, Rue Bonaparte, Paris.

L'Idée de Dieu dans les Sciences Contemporaines. III. Les Merveilles du Corps Humain. Par le Dr. L. Murat. En Collaboration avec le Dr. P. Murat. Price not stated.

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The Construction of Dietaries according to the Calorie Values of Foods, with Tables and a Scaled Food Map specially prepared. By Joseph Smyth, M.D., Local Government Inspector. Price 1s.

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Die physikalische Therapie der Gelenkkrankheiten für Aerzte und Studierende. Von Dr. Eduard Weisz, Budapest. Price, bound, M.6.

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Fortschritte der Naturwissenschaftlichen Forschung. Herausgegeben von Prof. Dr. Emil Abderhalden, Direktor des physiologischen Institutes des Universität Halle a.S. Fünfter Band. Price, paper, M.15; bound, M.17.

Der primäre Lungenherd bei der Tuberkulose der Kinder. Von Dr. Anton Ghon, O.Ö. Professor der pathologischen Anatomie an der Deutschen Universität in Prag. Price, M.3.50.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, such information for gratuitous publication.*

BROCKBANK, E. M., M.D. Vict., F.R.C.P. Lond., has been appointed Honorary Physician to the Manchester Royal Infirmary.

BURY, JUDSON S., M.D. Lond., F.R.C.P. Lond., has been appointed Honorary Consulting Physician to the Manchester Royal Infirmary.

CLANCHY, ARTHUR D., L.R.C.P. & S. Irel., has been appointed Junior House Surgeon at the Stockport Infirmary.

DAVIS, HALDIN, F.R.C.S. Eng., M.R.C.P. Lond., M.B. Oxon., has been appointed Assistant Physician to the Blackfriars Hospital for Diseases of the Skin.

HINGSTON, CHARLES ALBERT, M.D., B.Sc. Lond., M.R.C.S., has been reappointed Honorary Consulting Physician to the Crownhill Convalescent Home, near Plymouth.

KISCH, HAROLD A., M.B., B.S. Lond., F.R.C.S. Eng., has been appointed Assistant Surgeon to the Central London Throat, Nose, and Ear Hospital.

NANKIVELL, AUSTEN THRELFALL, M.D., B.S. Lond., L.R.C.P. Lond., M.R.C.S., D.P.H. Camb., has been appointed Medical Officer of Health for the St. Austell (Cornwall) Rural District, and Medical Officer to the St. Austell Workhouse and Scattered Homes.

NOLAN, J. N. GREENE, M.B., B.Ch., B.A.O. Dub., L.M. Rot., has been appointed Assistant Medical Officer at the East Sussex County Asylum, Hellingly.

RAMSBOTTOM, ALBERT, M.D., Ch.B., D.P.H. Vict., M.R.C.P. Lond., has been appointed Honorary Assistant Physician to the Manchester Royal Infirmary.

SOLTAU, ALFRED BERTRAM, M.D. Lond., F.R.C.S. Eng., L.R.C.P. Lond., has been re-elected Honorary Physician to the Crownhill Convalescent Home, near Plymouth.

WOODMAN, E. MUSGRAVE, M.S. Lond., F.R.C.S. Eng., has been appointed Assistant Surgeon to the General Hospital, Birmingham.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

AYLESBURY, BUCKS COUNTY LUNATIC ASYLUM, Stone.—Assistant Medical Officer, unmarried. Salary £185 per annum, with board and apartments.

BATTERSEA DISPENSARY FOR PREVENTION OF TUBERCULOSIS.—Medical Officer. Salary £250 per annum.

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BRIGHTON, HOVE, AND PRESTON DISPENSARY.—Resident Medical Officer, unmarried. Salary £160 per annum, with rooms, coals, gas, and attendance.

BRISTOL GENERAL HOSPITAL.—House Physician for six months. Salary £80 per annum, with board, residence, &c.

BRISTOL ROYAL HOSPITAL FOR SICK CHILDREN AND WOMEN.—Junior Resident Officer. Salary £80 per annum, with board, rooms, and attendance.

BRITISH LYING-IN HOSPITAL, Endell-street, W.C.—Resident Medical Officer. Salary at rate of £50 per annum, with board, lodging, and washing.

BURY INFIRMARY.—House Surgeon and Junior House Surgeon. Salary £110 and £80 per annum respectively, with board, residence, and washing.

CAMBERWELL BOROUGH.—District Medical Officer.

CANTERBURY, KENT AND CANTERBURY HOSPITAL.—Resident Medical Officer, unmarried. Salary £90 per annum, with board, lodging, and washing.

CHELSEA HOSPITAL FOR WOMEN, Fulham-road, S.W.—Clinical Assistant.

DORCHESTER, COUNTY ASYLUM.—Junior Assistant Medical Officer. Salary £160 per annum, with board, &c.

DREADNOUGHT HOSPITAL, Greenwich.—Medical Registrar. Salary £50 per annum, with luncheon.

DUMFRIES AND GALLOWAY ROYAL INFIRMARY.—Assistant House Surgeon. Salary £55 per annum, with board and washing.

DUNDEE DISTRICT ASYLUM.—Senior Resident Medical Officer and Junior Resident Medical Officer. Salary £150 and £120 per annum respectively, with board and apartments.

EVELINA HOSPITAL FOR SICK CHILDREN, Southwark, London, S.E.—House Surgeon for six months. Salary at rate of £75 per annum, with board, residence, and washing.

FRIMLEY, BROMPTON HOSPITAL SANATORIUM.—Assistant Resident Medical Officer. Salary £150 per annum, with board and residence.

GENERAL LYING-IN HOSPITAL, York-road.—Physician to Out-patients. Also Registrar.

GREAT NORTHERN CENTRAL HOSPITAL, Holloway-road, London, N.—Physician to Out-patients. Also House Surgeon for six months. Salary at rate of £40 per annum, with board, lodging, and laundry.

HARTSHILL, STOKE-ON-TRENT, NORTH STAFFORDSHIRE INFIRMARY.—House Surgeon. Salary £100 per annum, with apartments, board, and washing.

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MANCHESTER, ST. MARY'S HOSPITALS FOR WOMEN AND CHILDREN.—House Surgeon. Salary at rate of £50 per annum, with board and residence.
MANCHESTER, VICTORIA UNIVERSITY.—Professor of Forensic Medicine.
MILLER GENERAL HOSPITAL FOR SOUTH-EAST LONDON, Greenwich-road, S.E.—Gynæcologist.
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NOTTINGHAM GENERAL HOSPITAL.—Locum Tenens. Salary at rate of £3 3s. per week, with board, lodging, and washing.
PLYMOUTH WORKHOUSE.—Resident Medical Officer and Medical Officer for the Scattered Homes. Salary £150 per annum, with apartments, rations, and washing.
PORTSMOUTH WORKHOUSE INFIRMARY, WORKHOUSE, AND CHILDREN'S HOME.—Second Assistant Resident Medical Officer, unmarried. Salary £120 per annum, with apartments, rations, &c.
POWICK, COUNTY AND CITY ASYLUM, Worcester.—Junior Assistant Medical Officer, unmarried. Salary £150 per annum, with board, apartments, washing, and attendance.
PRESCOT UNION WORKHOUSE AND INFIRMARY, Whiston, Prescot, near Liverpool.—Resident Assistant Medical Officer, unmarried. Salary £120 per annum, with apartments, board, washing, attendance, &c.
READING, ROYAL BERKSHIRE HOSPITAL.—House Physician. Salary £80 per annum, with apartments, board, and washing.
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SHEFFIELD ROYAL INFIRMARY.—Ear and Throat House Surgeon. Salary £70 per annum.
STAFFORD, STAFFORDSHIRE GENERAL INFIRMARY.—House Physician. Salary £82 per annum, with board, residence, and laundry.
TEIGNMOUTH HOSPITAL, S. Devon.—House Surgeon. Salary £100 per annum, with board, lodging, and laundry.
WAKEFIELD GENERAL HOSPITAL.—Assistant House Surgeon, unmarried. Salary £100 per annum, with board, lodging, and washing.
WALSALL AND DISTRICT HOSPITAL.—House Physician and Casualty Officer. Salary £90 per annum, with board, residence, and laundry.
WARRINGTON INFIRMARY AND DISPENSARY.—Senior House Surgeon. Salary at rate of £120 per annum, with apartments, board, and laundry.
WESTMORLAND CONSUMPTION SANATORIUM AND HOME.—Medical Superintendent. Salary £350, with furnished house.
WINCHESTER, ROYAL HAMPSHIRE COUNTY HOSPITAL.—House Physician. Also House Surgeon. Salary in each case £80 per annum.

Births, Marriages, and Deaths.

BIRTHS.

EWENS.—On April 30th, at West Chase, Maldon, Essex, the wife of H. L. Ewens, M.D., of a daughter.

DEATHS.

MACKERN.—On May 2nd, at 9, South Cliff, Eastbourne, George Mackern, M.D. Lond., M.R.C.S., formerly Guy's Hospital, late Visiting Physician, British Hospital, Buenos Aires, Argentine Republic.
REES.—On May 3rd, at Upper Gloucester-place, N.W., Alfred Ernest Carey Rees, M.B., Ch.B., B.A., aged 36 years.
STUART.—On April 28th, at Bath, of pneumonia, after a short illness, Thomas Edmund Stuart, M.R.C.S., &c., Major R.A.M.C., Territorial Forces, aged 48 years.
WOODHOUSE.—On May 3rd, at Wantage, Berks, Walter Mansell Woodhouse, M.R.C.S., L.R.C.P., aged 41 years.
WYMAN.—On May 1st, at Nottingham-place, W., John Sanderson Wyman, M.D., M.R.C.S., in his 67th year.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

PUBLIC HEALTH IN CEYLON.

FROM the report on the public health by Sir Allan Perry, principal medical officer and inspector-general of hospitals in Ceylon, for the year 1910–11, it appears that the population amounted to 4,124,340, an increase of 3·19 per cent. on that of 1909; the birth-rate (39·6 per 1000) shows an increase of 1·8, and the death-rate (28·0) a decrease of 0·5 per 1000 on the average of 12 years, 1898–1909. As compared with 1909, the death-rate shows the considerable reduction of 2·3 per 1000. In regard to the principal diseases that prevailed, malaria holds the first place. A beginning has been made in systematic prophylaxis, but no details are furnished; no organised campaign in any particular town or district has been attempted, but a committee has been nominated to submit a scheme for Kurunegala in the North-Western Province. Quinine is regularly distributed in 324 Government schools, and is also given freely on many estates. A spleen census of male children attending schools was made for all provinces in the latter half of 1910; 179,837 were examined, and the percentage affected was found to be 19·43. In the first half of 1911 another census was taken for five provinces, 84,226 being examined, the resulting spleen-rate being 15·11. Both these censuses show a smaller ratio of children affected than in 1909, when it was 20·81. A serious epidemic of cholera occurred at the coolie camp at Ragane, where there were 327 cases and 214 deaths. The original source of infection was traced to India. Its spread is attributed to food-infection and flies. There was also great scarcity of water. Removal of the camp to a fresh site quickly brought the epidemic to a close. There were 816 cases of enteric fever treated in hospital, of whom 171 died. 284 cases occurred in the suburbs of Colombo, the village most affected being in immediate proximity to the night-soil depôt, and flies being so great a pest that the bakers could not knead their dough in the daytime and had to do it after nightfall. It is not stated that any measures were taken to remedy this condition of things. Leprosy prevails, and the present accommodation is quite inadequate. The question of a leper colony for the Eastern Province is still "under consideration." Ankylostomiasis has been considered by a special committee, and a draft enactment in regard to its prevalence is now under consideration. The use of beta-naphthol and sanitary measures in regard to latrine accommodation, the disposal of excreta, and water-supply have been recommended. The disease chiefly occurs among coolies on estates, who are to some extent capable of being supervised. Where sanitary conditions have been improved there have been excellent results. Parangi or yaws is a disease that has prevailed considerably in Ceylon. Dr. Castellani has employed salvarsan in its treatment with, up to the present time, great success. A commission has been appointed to inquire into the prevalence of tuberculous disease, and a dispensary and sanatorium established from funds subscribed, as a King Edward memorial; also, the Colombo municipality has made the disease compulsorily notifiable.

RAPID X RAY PLATES.

WE have received from Messrs. Wratten and Wainwright, of Croydon, samples of X ray plates which have been prepared by them from a new formula which they claim gives an increased rapidity. We have tested these plates, and so far as can be ascertained from trial limited by the number of plates, we think this claim of increased rapidity is justified. It appears that the exposure can be reduced by about 25 per cent., possibly a little more after becoming more familiar with the use of the plate in regular work. They are developed with hydrokinone, no metol being used, and the negatives are crisp with good contrast. They have a slight "graininess," but this does not seem to impair the value of the plate in any way. We trust this increased sensitiveness will be further developed, and that the use of the intensifying screen will soon be an unnecessary procedure, making practically instantaneous exposures in radiography as usual as in daylight photography.

THE "WHISPERPHONE."

THE "whisperphone" consists of a metal mouthpiece, which is easily adapted to the telephone, provided inside with a conical spiral of thin wire, the apex of the spiral being placed nearest the diaphragm. Its attachment to the ordinary telephone is said to accentuate the sound waves projected upon the diaphragm so that the person speaking to the telephone need not make any special effort to be heard at the other end. It is said, in fact, that by the use of this instrument whispers are clearly conveyed. We have tried it on the trunk lines and the audibility of the messages was distinctly improved. It appears also to relieve to some extent the necessity of speaking forcibly over the local line. The specimen sent to us came from the Whisperphone Syndicate, Limited, of 82-83, Fenchurch street, London, E.C.

SUFFOCATION.

"*A Witness*" asks our readers (1) if there are any grounds for the universally held belief that a person feeling symptoms of impending suffocation clutches at his throat; and (2), if so, whether anyone has ever actually seen such a person clutch at his throat.

ERRATUM.—Professor Saugman points out a clerical error on p. 1127 (col. 2, line 32 from the top) in his paper published in THE LANCET of April 27th. "5-8 kilogrammes" should read "5·8 kilogrammes."

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

Medical Diary for the ensuing Week.

SOCIETIES.

ROYAL SOCIETY, Burlington House, London, W.

THURSDAY.—Mr. W. B. Hardy: (1) The General Theory of Colloidal Solutions; (2) The Tension of Composite Fluid Surfaces and the Mechanical Stability of Films of Fluid; (3) On the Formation of a Heat-reversible Gel.—Prof. H. E. Armstrong, Mr. E. F. Armstrong, and Mr. E. Horton: Studies on Enzyme Action—XVI., The Enzymes of Emulsin (II.): Prunase, the Correlate of Prunasin; XVII., Enzymes of the Emulsin Type (II.): The Distribution of β-enzymes in Plants.—Prof. H. E. Armstrong and Mr. J. V. Eyre: Studies on Enzyme Action—XVIII., Enzymes of the Emulsin Type (III.): Linase and other Enzymes in Linaceæ.—Dr. A. Forbes: Reflex Rhythm induced by Concurrent Excitation and Inhibition (communicated by Prof. C. S. Sherrington).—Mr. T. G. Brown: The Factors in Rhythmic Activity of the Nervous System (communicated by Prof. C. S. Sherrington).

ROYAL SOCIETY OF MEDICINE, 15, Cavendish-square, W. (temporary address during building of new house).

TUESDAY.

SURGICAL SECTION (Hon. Secretaries—L. A. Dunn, James Berry), at 11, Chandos-street, W.: at 5.30 P.M.

Annual Meeting—Election of Officers and Council for the ensuing Session.

Debate

On the Surgical Treatment of Aneurysm, to be opened by Mr. H. Gilbert Barling (Birmingham). The following will take part in the Debate:—Mr. C. B. Lockwood, Mr. H. S. Pendlebury, Mr. C. Braine Mitchell, and others.

There will be a large Exhibition of Specimens of Aneurysm (collected from the various metropolitan museums), which will be on view at 11, Chandos-street, on the afternoon of Monday, May 13th, and on Tuesday, May 14th.

THURSDAY.

DERMATOLOGICAL SECTION (Hon. Secretaries—J. H. Sequeira, Wilfred Fox), at 11, Chandos-street, W.: at 5 P.M.

Demonstration of Cases.

FRIDAY.

OTOLOGICAL SECTION (Hon. Secretaries—Sydney Scott, A. Logan Turner), at 11, Chandos-street, W.: at 4.30 P.M.

Annual Meeting—Election of Officers and Council for the ensuing year.

Discussion

On the Value and Significance of Hearing Tests, introduced at the last meeting by Dr. Thomas Barr and Mr. Sydney Scott (see "Proceedings," No. 6, April).

Paper:

Dr. Dan McKenzie: The Semicircular Canals and the Sense of Position and Orientation. (Advance copies will be sent to Members on application.)

Cases:

Mr. Alexander Sharp: Notes of a Case of Deafness caused by Excessive Tea-drinking.

And other Cases.

ELECTRO-THERAPEUTICAL SECTION (Hon. Secretaries—G. Harrison Orton, Cecil R. C. Lyster) at the Maison Jules, 86, Jermyn-street, S.W.: at 7.15 P.M.

Annual Meeting—Election of Officers and Council for the ensuing Session.

Followed by Annual Dinner at 7.30 P.M.

MEDICAL SOCIETY OF LONDON, 11, Chandos-street, Cavendish-square, W.

MONDAY.—8 P.M., General Meeting. Election of Officers, &c. 8.30 P.M., Ordinary Meeting. Discussion on the Sphygmomanometer in General Practice (introduced by Dr. F. de Havilland Hall). Followed by Sir Lauder Brunton, Bart., Dr. L. Hill, Dr. A. M. Gossage, Dr. G. Oliver, Dr. B. Thorne, Dr. L. Thorne Thorne, Dr. F. W. Price, Dr. H. Dally, Dr. O. K. Williamson, Dr. H. French, and others.

ROYAL MICROSCOPICAL SOCIETY, 20, Hanover-square, W.

WEDNESDAY.—8 P.M., Rev. H. Friend: British Enchytraeids—IV., The Genus Henlea. Exhibition of Pond Life.

SOCIETY OF TROPICAL MEDICINE AND HYGIENE, 11, Chandos-street, Cavendish-square, W.

FRIDAY.—8.30 P.M., A Case will be shown by Dr. P. S. Abraham. Discussion on Tuberculosis in Primitive Races (opened by Major S. L. Cummins, R.A.M.C. Dr. J. B. Cleland (Sydney): Two Cases of Tuberculosis in Aborigines.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC, 22, Chenies-street, W.C.

MONDAY.—4 P.M., Dr. J. M. H. MacLeod: Clinique (Skin). 5.15 P.M., Lecture:—Dr. A. G. Buchanan: Psycho-Therapy.

TUESDAY.—4 P.M., Dr. W. J. Fenton: Clinique (Medical). 5.15 P.M., Lecture: Mr. J. S. Joly: Stone in the Kidney.

WEDNESDAY.—4 P.M., Mr. P. M. Heath: Clinique (Surgical). 5.15 P.M., Lecture:—Dr. G. S. Hett: Nasal Obstruction and Other Conditions when Sub-mucous Resection of the Septum is Indicated.

THURSDAY.—4 P.M., Mr. J. Berry: Clinique (Surgical). 5.15 P.M., Lecture:—Dr. H. Campbell: Some Points in the Neurology of the Visual System.

FRIDAY.—4 P.M., Dr. StClair Thomson: Clinique (Ear, Nose, and Throat).

POST-GRADUATE COLLEGE, West London Hospital, Hammersmith-road, W.

MONDAY.—10 A.M., Dr. Simson: Diseases of Women. 10.30 A.M., Surgical Registrar: Demonstration of Cases in Wards. 12 noon, Dr. Bernstein: Pathological Demonstration. 2 P.M., Medical and Surgical Clinics. X Rays. Operations. 2.30 P.M., Mr. Dunn: Diseases of the Eye. 5 P.M., Lecture:—Dr. Morton: Carbon Dioxide Snow.

TUESDAY.—10 A.M., Dr. Robinson: Gynæcological Operations. 11 A.M., Mr. Rtherington-Smith: Demonstration of Minor Operations. 2 P.M., Medical and Surgical Clinics. X Rays. Operations. Dr. Davis: Diseases of the Throat, Nose, and Ear. 2.30 P.M., Dr. Abraham: Diseases of the Skin. 5 P.M., Lecture:—Dr. Low: Insects as Carriers of Disease in Tropical Medicine.

WEDNESDAY.—10 A.M., Dr. Saunders: Diseases of Children. Dr. Davis: Operations of the Throat, Nose, and Ear. 10.30 A.M., Surgical Registrar: Demonstration of Cases in Wards. 2 P.M., Medical and Surgical Clinics. X Rays. Operations. Mr. B. Harman: Diseases of the Eye. Dr. Simson: Diseases of Women. 5 P.M., Lecture:—Dr. Bernstein: Blood Examination—Serology.

THURSDAY.—10 A.M., Dr. Simson: Gynæcological Demonstration. 12.15 P.M., Lecture:—Dr. G. Stewart: Practical Medicine. 2 P.M., Medical and Surgical Clinics. X Rays. Operations. 2.30 P.M., Mr. Dunn: Diseases of the Eye. 5 P.M., Lecture:—Mr. Bidwell: Surgical Treatment of Chronic Gastric and Duodenal Ulcer.

FRIDAY.—10 A.M., Dr. Robinson: Gynæcological Operations. 12.15 P.M., Lecture:—Dr. Bernstein: Clinical Pathology. 2 P.M., Medical and Surgical Clinics. X Rays. Operations. Dr. Davis: Diseases of the Throat, Nose, and Ear. 2.30 P.M., Dr. Abraham: Diseases of the Skin. 5 P.M., Lecture:—Dr. Saunders: Clinical (with cases).

SATURDAY.—10 A.M., Dr. Saunders: Diseases of Children. Dr. Davis: Operations of the Throat, Nose, and Ear. Mr. Bishop Harman: Diseases of the Eye. 10.30 A.M., Medical Registrar: Demonstration of Cases in Wards. 2 P.M., Medical and Surgical Clinics. X Rays. Operations.

NORTH-EAST LONDON POST-GRADUATE COLLEGE, Prince of Wales's General Hospital, Tottenham, N.

MONDAY.—Clinics:—10.30 A.M., Surgical Out-patient (Mr. B. Gillespie). 2.30 P.M., Medical Out-patient (Dr. T. R. Whipham); Nose, Throat, and Ear (Mr. H. D. Gillies). 3 P.M., Clinical Pathology and Pathological Demonstration (Dr. W. H. Duncan).

TUESDAY.—Clinic; 2.30 P.M., Operations. Clinics:—Medical Out-patient (Dr. A. G. Auld).; Surgical (Mr. Howell Evans); Gynæcological (Dr. A. E. Giles). 3.30 P.M., Medical In-patient (Dr. A. J. Whiting). 4.30 P.M., Special Demonstration:—Mr. H. Evans: Cases Illustrating the Differential Diagnosis of Swellings of the Neck.

WEDNESDAY.—Clinics:—2 P.M., Throat Operations (Mr. Gillies). 2.30 P.M., Children's Out-patient (Dr. T. R. Whipham); Skin (Dr. G. N. Meachen); Eye (Mr. R. P. Brooks). 3 P.M., X Rays (Mr. W. Steuart); Clinical Pathology and Pathological Demonstration (Dr. W. H. Duncan). 5.30 P.M., Eye Operations (Mr. Brooks).

THURSDAY.—2.30 P.M., Gynæcological Operations (Dr. A. E. Giles). Clinics:—Medical Out-patient (Dr. A. J. Whiting); Surgical (Mr. Carson). 3 P.M., Medical In-patient (Dr. G. P. Chappel).

FRIDAY.—2.30 P.M., Operations. Clinics:—Medical Out-patient (Dr. A. G. Auld); Surgical (Mr. B. Gillespie); Eye (Mr. R. P. Brooks). 3 P.M., Medical In-patient (Dr. R. M. Leslie); Clinical Pathology and Pathological Demonstration (Dr. W. H. Duncan). 4.30 P.M., Special Demonstration:—Mr. R. P. Brooks: Types of Keratitis.

LONDON SCHOOL OF CLINICAL MEDICINE, Dreadnought Hospital, Greenwich.

MONDAY.—2 P.M., Operations. 2.15 P.M., Mr. Turner: Surgery. 3.15 P.M., Sir Dyce Duckworth: Medicine. 4.30 P.M., Mr. R. Lake: Ear and Throat. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 12 noon, Ear and Throat.

TUESDAY.—2 P.M., Operations. 3.15 P.M., Dr. R. Wells: Medicine. 2.15 P.M., Mr. R. Carling: Surgery. 4.15 P.M., Sir M. Morris: Diseases of the Skin. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 12 noon, Skin. 4.30 P.M., Special Lecture:—Dr. J. Taylor: Treatment in Certain Nervous Diseases.

WEDNESDAY.—2.15 P.M., Dr. F. Taylor: Medicine. 3.30 P.M., Mr. Cargill: Ophthalmology. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 11 A.M., Eye.

THURSDAY.—2 P.M., Operations. 2.15 P.M., Dr. G. Rankin: Medicine. 3.15 P.M., Sir W. Bennett: Surgery. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 12 noon, Ear and Throat. 4.30 P.M., Dr. W. Steuart: Radiography. 4.30 P.M., Special Lecture:—Mr. Curtis: Some Cases of Urinary Surgery.

FRIDAY.—11 A.M., Dr. A. Davies: Pathological Demonstration. 2 P.M., Operations. 2.15 P.M., Sir J. Rose Bradford: Medicine. 3.15 P.M., Mr. McGavin: Surgery. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 12 noon, Skin.

SATURDAY.—Out-patient Demonstration:—10 A.M., Surgical and Medical. 11 A.M., Eye.

ST. JOHN'S HOSPITAL FOR DISEASES OF THE SKIN, 49, Leicester-square, W.C.

TUESDAY.—6 P.M., Dr. W. Griffith: Syphilis—Diagnosis and Treatment.

ROYAL INSTITUTION OF GREAT BRITAIN, Albemarle-street, Piccadilly, W.

TUESDAY.—3 P.M., Prof. W. Bateson: The Study of Genetics. (Lecture I.)

FRIDAY.—9 P.M., Mr. W. Duddell: High Frequency Currents.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen square, Bloomsbury, W.C.

TUESDAY.—3.30 P.M., Clinical Lecture:—Dr. R. Russell: Paralysis of the Cranial Nerves.

FRIDAY.—3.30 P.M., Clinical Lecture:—Dr. G. Holmes: Principles of Topographical Diagnosis.

ANCOATS HOSPITAL, Manchester.

THURSDAY.—4.15 P.M., Dr. W. J. S. Bythell: Examination of the Intestine by Means of Bismuth and the X Rays. (Post-Graduate Clinic.)

MANCHESTER ROYAL INFIRMARY.

TUESDAY.—4.30 P.M., Dr. G. Murray: Vaccine Treatment of Pneumonia. (Post-Graduate Clinic.)

FRIDAY.—4.30 P.M., Mr. J. W. Smith: Enteroptosis. (Post-Graduate Clinic.)

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (13th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Royal Free (2 P.M.), Guy's (1.30 P.M.), Children, Gt. Ormond-street (9 A.M.), St. Mark's (2.30 P.M.), Central London Throat and Ear (Minor 9 A.M., Major 2 P.M.).

TUESDAY (14th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Soho-square (2 P.M.), Chelsea (2 P.M.), Children, Gt. Ormond-street (9 A.M. and 2 P.M., Ophthalmic, 2 P.M.), Tottenham (2.30 P.M.), Central London Throat and Ear (Minor, 9 A.M., Major, 2 P.M.), Royal National Orthopædic (9.30 A.M. and 4 P.M.).

WEDNESDAY (15th).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. Thomas's 2 P.M.), London (2 P.M.), King's College (2 P.M.), St. George's (Ophthalmic, 1 P.M.), St. Mary's (2 P.M.), St. Peter's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Cancer (2 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal Ear (2 P.M.), Children, Gt. Ormond-street (9 A.M. and 9.30 A.M., Dental, 2 P.M.), Tottenham (Ophthalmic, 2.30 P.M.), West London (2.30 P.M.), Central London Throat and Ear (Minor, 9 A.M., Major, 2 P.M.).

THURSDAY (16th).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal National Orthopædic (9 A.M. and 3.30 P.M.), Royal Ear (2 P.M.), Children Gt. Ormond-street (9 A.M. and 2 P.M.), Tottenham (Gynæcological, 2.30 P.M.), West London (2.30 P.M), Central London Throat and Ear (Minor, 9 A.M., Major, 2 P.M.).

FRIDAY (17th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), Ophthalmic (10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Royal National Orthopædic (3.30 P.M.), Soho-square (2 P.M.), Children, Gt. Ormond-street (9 A.M., Aural, 2 P.M.), Tottenham (2.30 P.M.), St. Peter's (2 P.M.)., Central London Throat and Ear (Minor, 9 A.M., Major, 2 P.M.).

SATURDAY (18th).—Royal Free (9 A.M.), London (2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), University College (9.15 A.M.), Charing Cross (2 P.M.), St. George's (1 P.M.), St. Mary's (10 A.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Children, Gt. Ormond-street (9 A.M. and 9.30 A.M.), West London (2.30 P.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic (2 P.M.), Hospital operations are performed daily.

EDITORIAL NOTICES.

IT is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITOR," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention should be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this office.

Lectures, original articles, and reports should be written on one side of the paper only, AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers—not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale and advertising departments of THE LANCET *should be addressed "To the Manager."*

We cannot undertake to return MSS. not used.

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METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, May 8th, 1912.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rain fall.	Solar Radio in Vacuo.	Maximum Temp. Shade.	Min. Temp.	Wet Bulb.	Dry Bulb.	Remarks.
May 2	30·06	S.W.	...	115	63	50	53	56	Cloudy
,, 3	30 00	W.	...	90	66	49	52	55	Overcast
,, 4	29·99	S.E.	...	50	50	50	49	50	Raining
,, 5	30 05	S.E.	0·25	109	61	47	50	53	Cloudy
,, 6	30·04	S.W.	...	104	65	48	54	56	Overcast
,, 7	30 13	S.W.	...	92	63	54	55	57	Overcast
,, 8	30·29	W.	0·07	122	72	57	58	61	Overcast

The following journals, magazines, &c., have been received:—British Journal of Dental Science, Transvaal Medical Journal, Childs' Guardian, Public Health, Asylum News, Polyclinic, Annales de Gynécologie et d'Obstétrique, Bulletins et Mémoires de la Société de Radiologie, La Policlinique, Archives de Médecine et de Pharmacie Militaires, Dominion Medical Monthly, Detroit Medical Journal, Proceedings of the Royal Society of Medicine, Archiv für Experimentelle Pathologie und Pharmakologie, Child, North of England Clinical Journal, Medical Chronicle, Medical Notes and Queries, South African Medical Record, Archives of the Roentgen Rays, Quarterly Journal of Experimental Physiology, Journal of Anatomy and Physiology, Ophthalmology, Journal of Hygiene.

Communications, Letters, &c., have been received from—

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